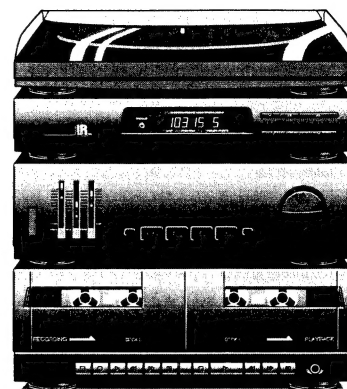


Service  
Service  
Service



# Service Manual

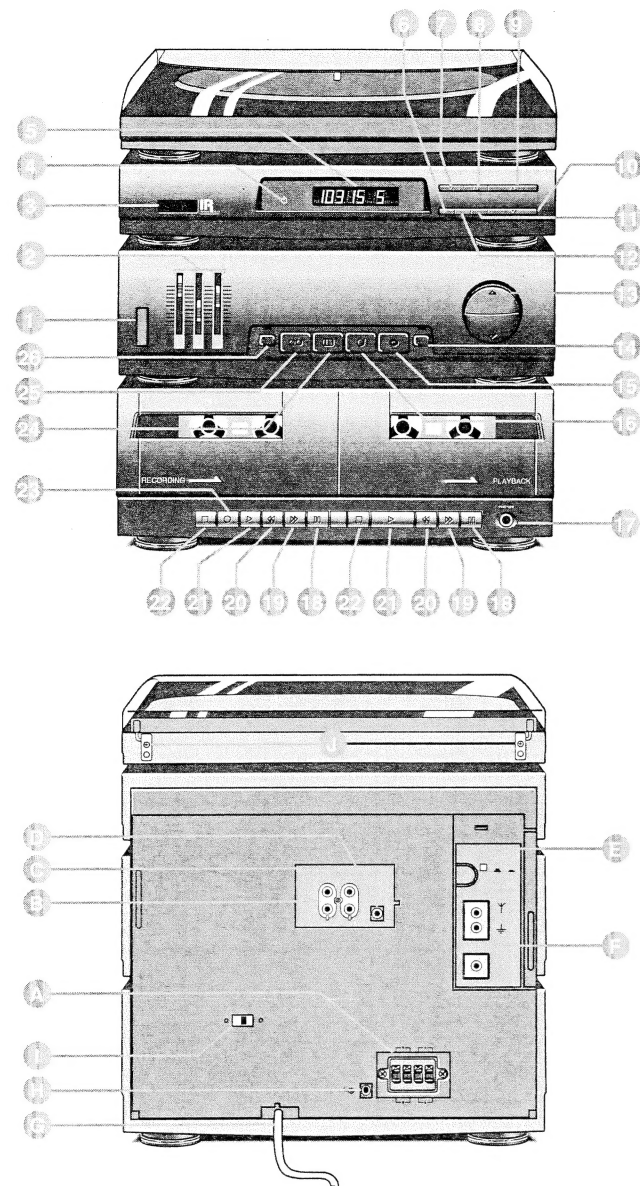
For repair information of the cassette mechanism see  
Service Manual of Recorders tape deck RDN-1.

For repair information of the Record player see Service  
Manual of Record player DL-40.

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"Pour votre sécurité, ces documents  
doivent être utilisés par des spécia-  
listes agréés, seuls habilités à réparer  
votre appareil en panne".





## CONNECTIONS AND CONTROLS

1	Power Switch	1263	18	Pause	
2	Graphic Equalizer	3507,3509	19	F. Forward	
		3511	20	F. Rewind	
3	Infra red sensor	6420	21	Play	
4	Stand by indicator	6435	22	Stop - Eject	
5	Display	1420	23	Record	1707
6	FM/AM	1406	24	Tuner selector	1404
7	Preset down	1412	25	Tape selector	1402
8	Preset up	1411	26	High speed Dubbing	1690
9	Tuning up	1407	A	Speaker connection	1200
10	Tuning down	1410	B	CD/TV input	1554
11	Mono/Stereo	1408	C	Not applicable	
12	Program memo	1409	D	RC socket	1422
13	Volume control	1510,1511	E	Grid switch	1105
14	DBB switch	1405	F	Aerial socket	1100,1104
15	CD/TV selector	1403	G	AC cord	
16	Phono selector	1401	H	Not applicable	
17	Headphone	1258	I	Voltage selector	1025

## SPECIFICATIONS

### GENERAL

Mains voltage	: 120V - 220V - 240V
Mains selection/setting	: Serviceable Set at 220V
Mains frequency	: 50Hz
Power consumption	: 86W max.
Dimension centre unit	: 360 x 365 x 375mm

### TUNER : FM SECTION

Tuning range	: 87.5MHz - 108MHz
Tuning grid	: 50kHz
IF frequency	: 10.7MHz
Aerial input	: Dipole antenna
Sensitivity at 26dB S/N	: < 4μV
Selectivity at 600kHz bandwidth	: > 72dB
IF rejection	: > 80dB
Image rejection	: > 80dB

### TUNER : AM SECTION

Tuning range	MW : 522kHz - 1611kHz LW : 148kHz - 284kHz
Tuning grid	: 9kHz for MW 1kHz for LW
IF frequency	: 450kHz
Sensitivity at 26dB S/N	MW : < 3.5mV/M LW : < 6.0mV/M
Selectivity at 18kHz bandwidth	MW : > 28dB LW : > 28dB
IF rejection	MW : > 40dB LW : > 40dB
Image rejection	MW : > 30dB LW : > 34dB

### AMPLIFIER

Output power at 10% distortion	Mains : 2 x 15W -1dB
Speaker impedance	: 2 x 8Ω L/R
Frequency response within ± 3dB	: 100Hz - 14kHz
Equalizer control	: -6dB to +6dB
Dynamic bass boost	: +6dB at 100Hz
Headphone output at 32Ω	: 30mW
Remote control output	: 5V non-inverted RC5
Input sensitivity	CD/TV : < 300mV at 47kΩ

### CASSETTE RECORDER

Number of track	: 2 x 2 stereo
Tape speed	: 4.76 cm/sec ± 2% ≈ 2 x 4.76 cm/sec
Wow and flutter	: < 0.35%
Fast - wind time C60	: 130 sec
Bias system	: 57kHz ± 10kHz
Recording playback frequency response	within -8dB : 80Hz - 10kHz Rec 80Hz - 9kHz NS dubbing within -10dB : 125Hz - 8kHz HS dubbing
Signal to noise ratio	Rec : > 44dB NS dubbing : > 42dB HS dubbing : > 36dB

### RECORD PLAYER

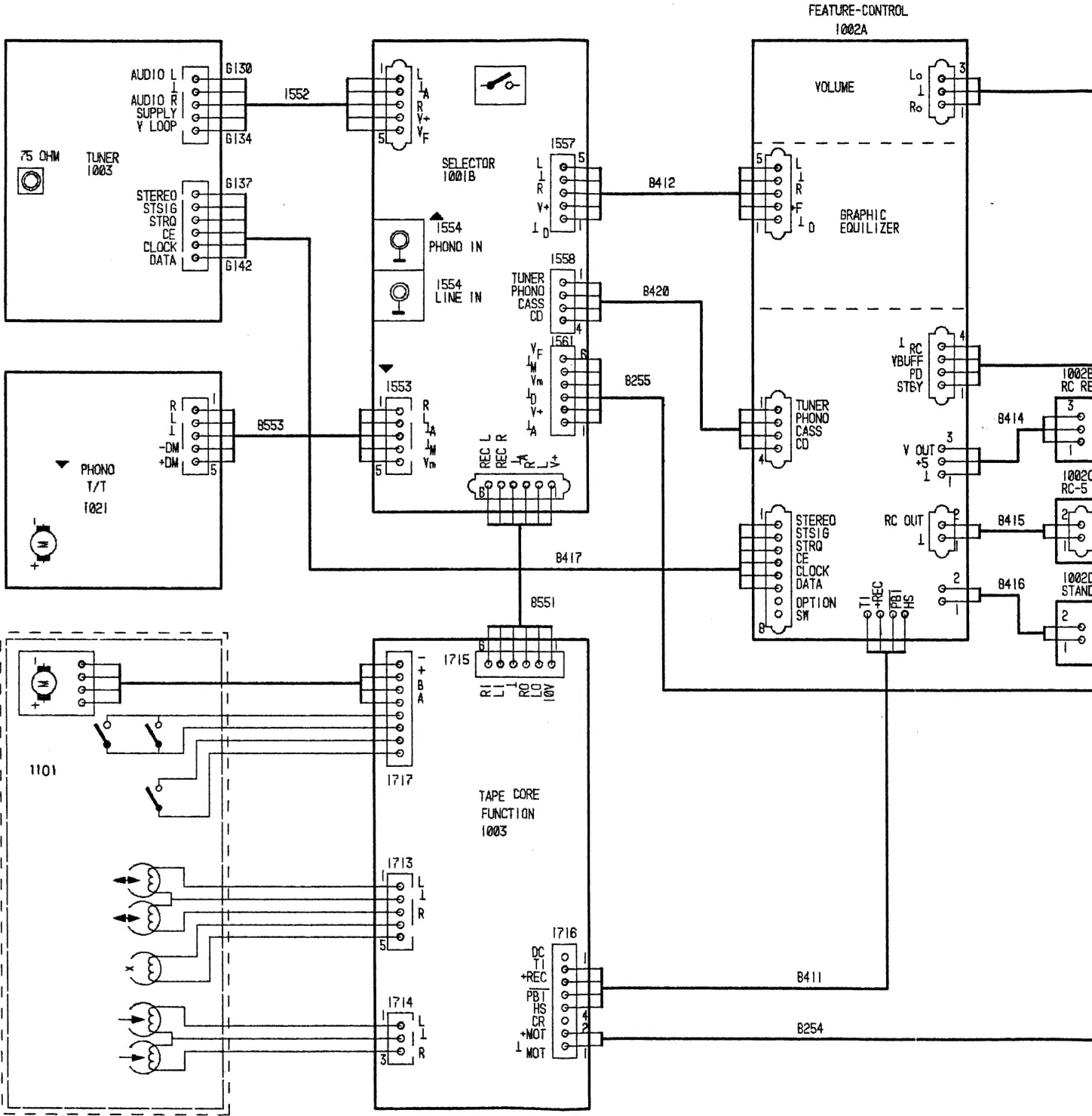
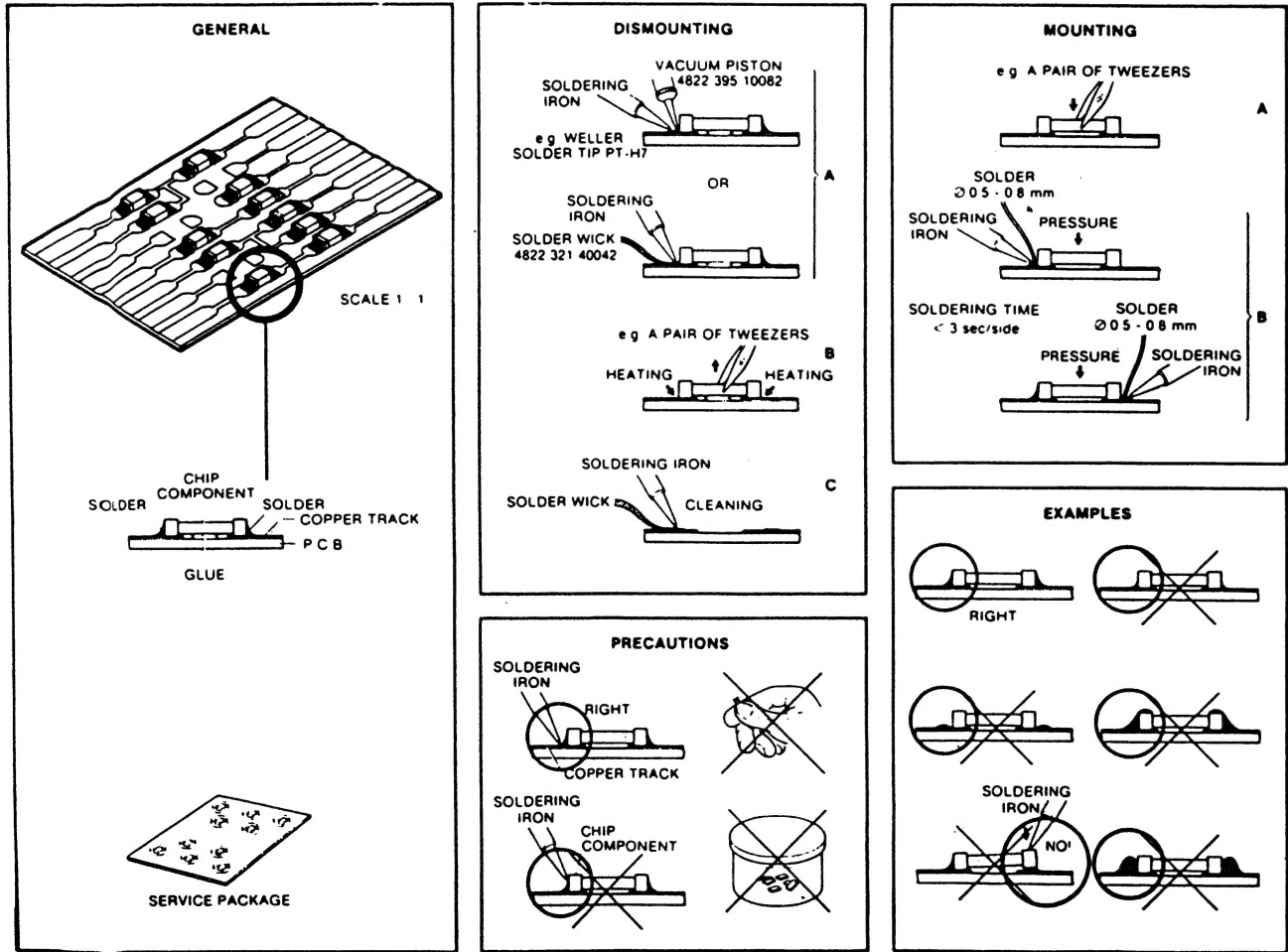
Type of drive system	: Belt drive
Type of PU Head	: Sapphire stereo
Stylus force	: 5.0gmf +1.5gmf/-1gmf
Speed	: 331/3 ; 45 rpm ± 2.2%
Wow and flutter	: 0.3%
Rumble	: -30dB DIN A -50dB DIN B

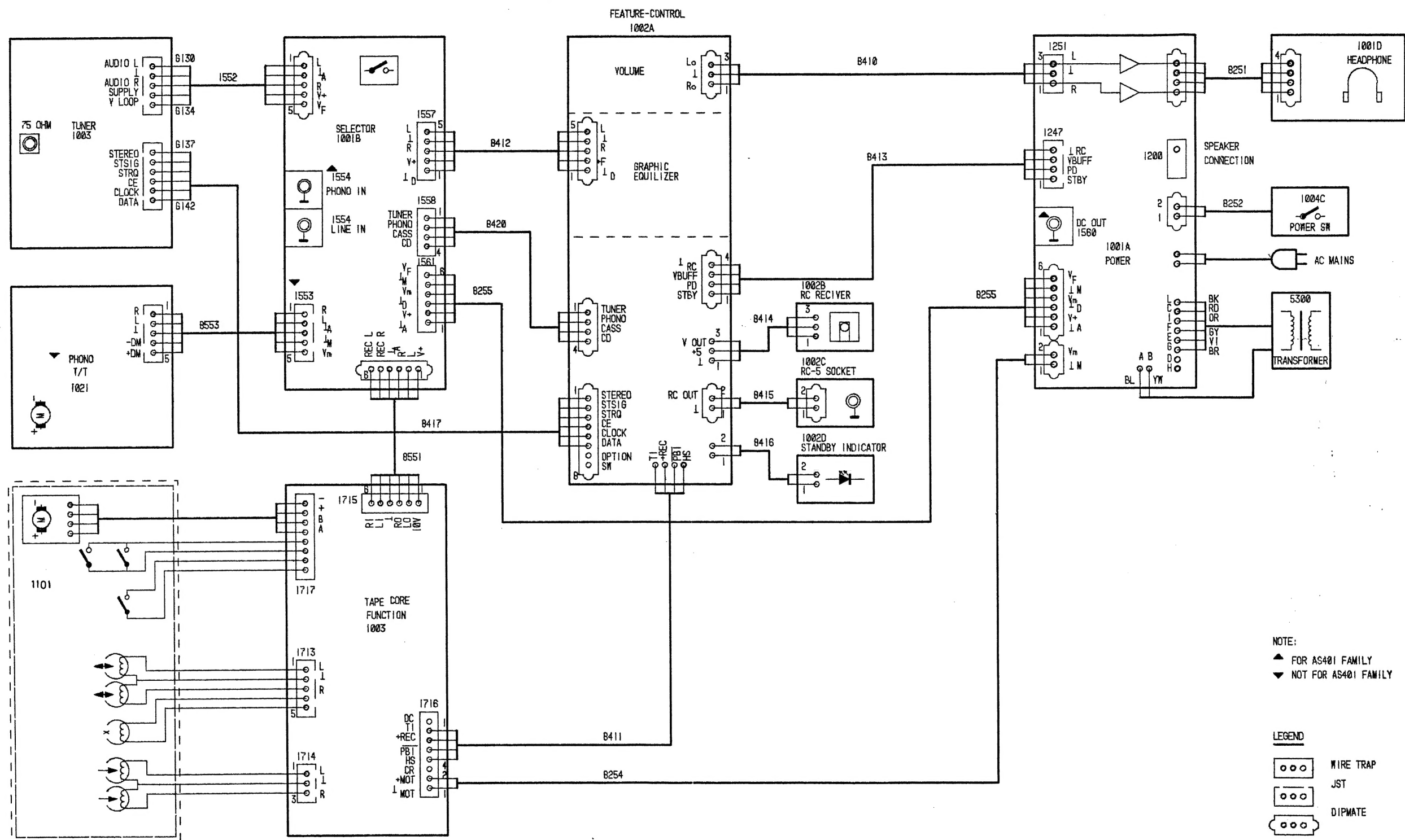
ADJUSTMENT	CASSETTE	Recorder position			MEASURE	READ ON	ADJUST WITH	ADJUST TO
		SK...	DECK I	DECK II				
Azimuth	10KHz SBC 420*	Tape	Play	-	1258	mV-meter	Left hand Screw Play head	Max. L = R
		Tape	-	Play	1258	mV-meter	Left hand Screw R/P Head	
Motor speed (Normal)	3150Hz SBC420*	Tape	Play	-	1258	Wow and Flutter meter	preset in motor	** a
		Tape	-	Play	1258	Wow and Flutter meter	-	
Motor speed (high)	3150Hz SBC420*	Tape HS Dubbing	Record	Play	1258	Frequency counter	-	6.0KHz +/-0.3KHz

\* SBC 420 : 4822 397 30071

\*\* a The maximum permissible speed deviation is 2%.  
Moreover, the wow and flutter value can be read.  
This value should not exceed 0.35%.

HANDLING CHIP COMPONENTS

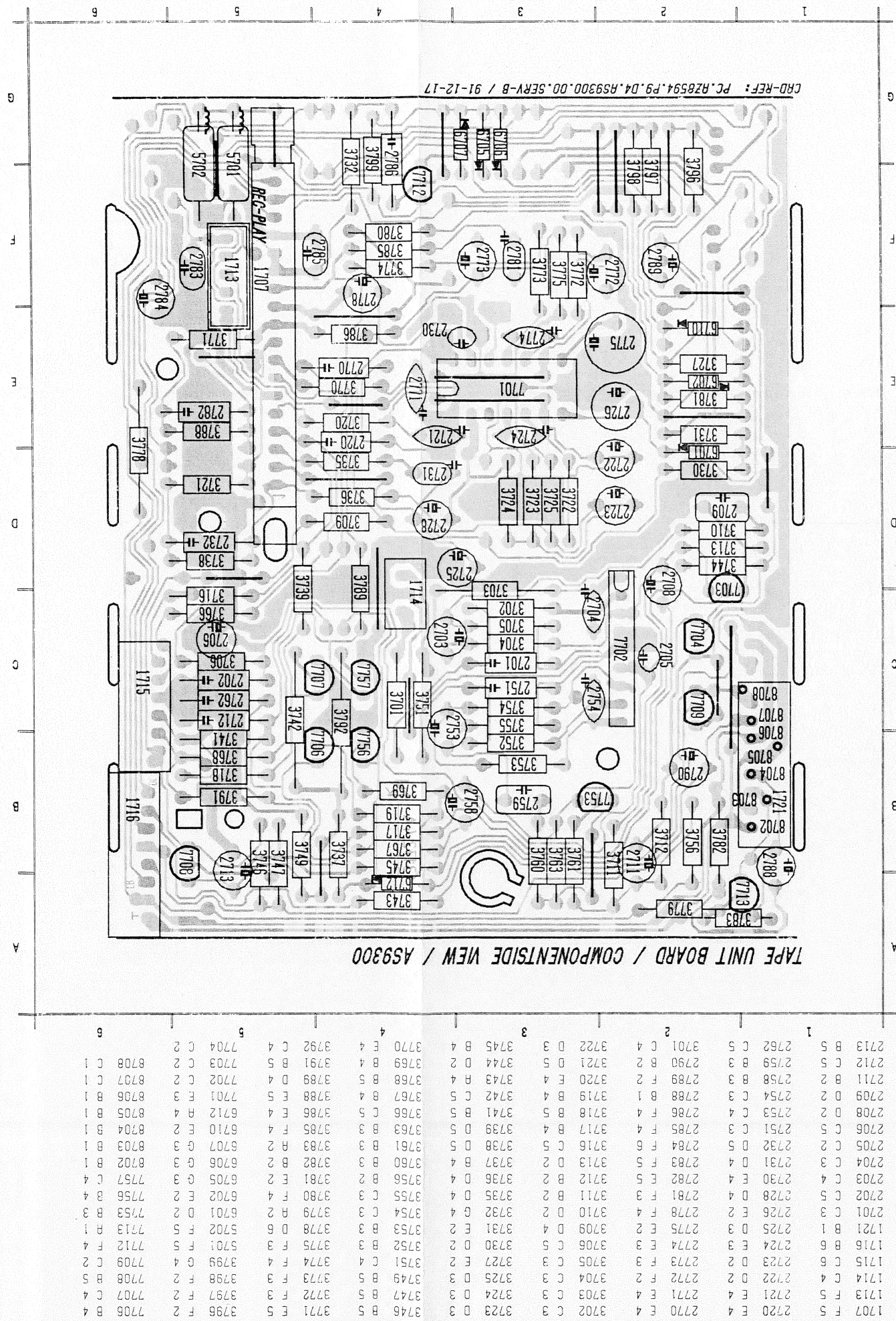






[illegible][illegible]





COMPONENTS TYPE CHANGED

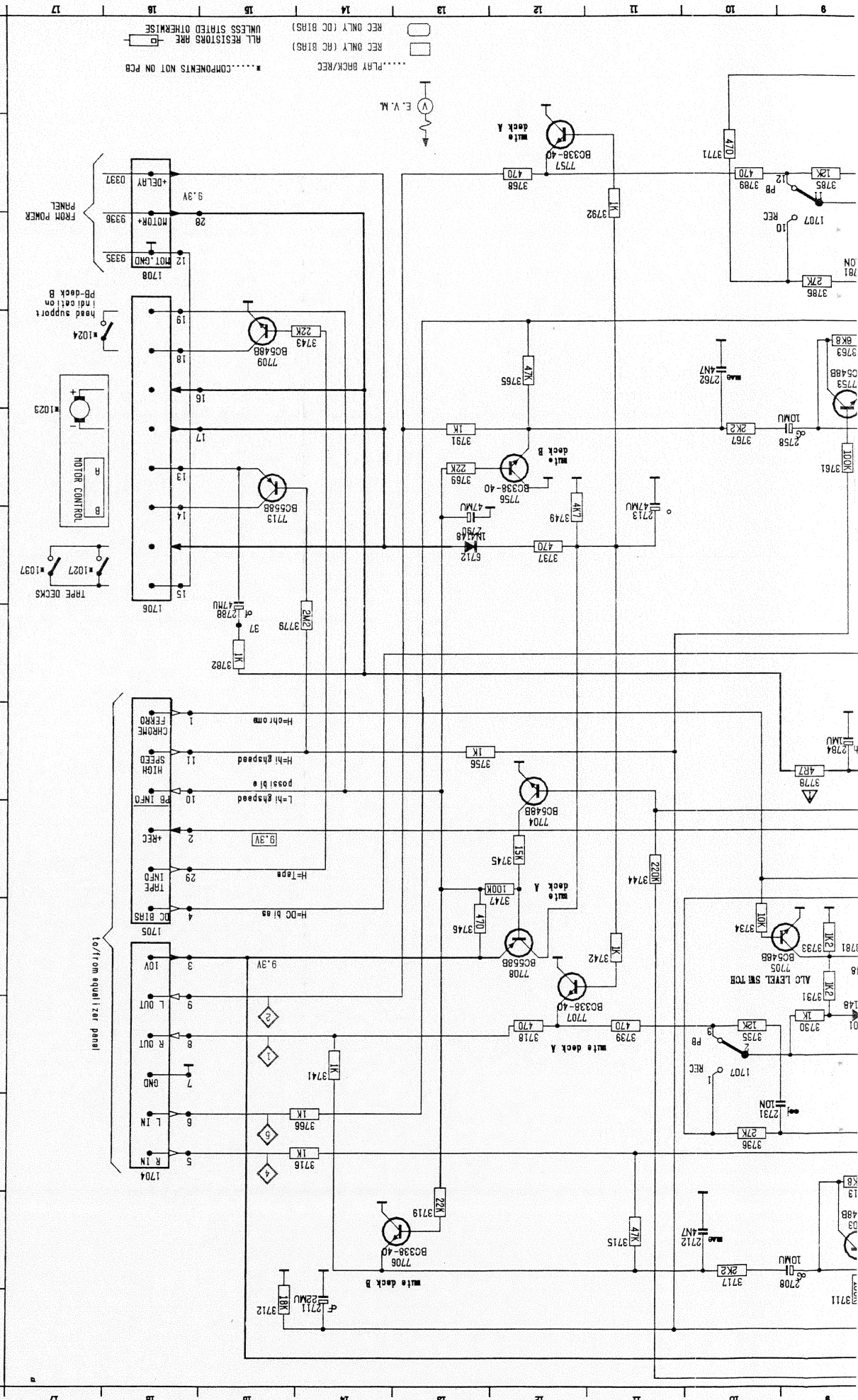
POS. NR. TYPE OLD TYPE NEW

6713 BZY66C2V0 HZ2-B2-TA

NEW CONNECTION OF 1707

3759	G 2
3758	G 6
3757	G 5
3756	G 4
3755	G 3
3754	G 2
3753	G 1
3752	F 6
3751	F 5
3750	F 4
3749	F 3
3748	F 2
3747	F 1
3746	E 6
3745	E 5
3744	E 4
3743	E 3
3742	E 2
3741	E 1
3740	D 6
3739	D 5
3738	D 4
3737	D 3
3736	D 2
3735	D 1
3734	C 6
3733	C 5
3732	C 4
3731	C 3
3730	C 2
3729	C 1
3728	B 6
3727	B 5
3726	B 4
3725	B 3
3724	B 2
3723	B 1
3722	A 6
3721	A 5
3720	A 4
3719	A 3
3718	A 2
3717	A 1
3716	1701
3715	1702
3714	1703
3713	1704
3712	1705
3711	1706
3710	1707
3709	1708
3708	1709
3707	1710
3706	1711
3705	1712
3704	1713
3703	1714
3702	1715
3701	1716

3759	H 1
3758	H 2
3757	H 3
3756	H 4
3755	H 5
3754	H 6
3753	H 7
3752	H 8
3751	H 9
3750	H 10
3749	H 11
3748	H 12
3747	H 13
3746	H 14
3745	H 15
3744	H 16
3743	H 17
3742	H 18
3741	H 19
3740	H 20
3739	H 21
3738	H 22
3737	H 23
3736	H 24
3735	H 25
3734	H 26
3733	H 27
3732	H 28
3731	H 29
3730	H 30
3729	H 31
3728	H 32
3727	H 33
3726	H 34
3725	H 35
3724	H 36
3723	H 37
3722	H 38
3721	H 39
3720	H 40
3719	H 41
3718	H 42
3717	H 43
3716	H 44
3715	H 45
3714	H 46
3713	H 47
3712	H 48
3711	H 49
3710	H 50
3709	H 51
3708	H 52
3707	H 53
3706	H 54
3705	H 55
3704	H 56
3703	H 57
3702	H 58
3701	H 59
3700	H 60
3699	H 61
3698	H 62
3697	H 63
3696	H 64
3695	H 65
3694	H 66
3693	H 67
3692	H 68
3691	H 69
3690	H 70
3689	H 71
3688	H 72
3687	H 73
3686	H 74
3685	H 75
3684	H 76
3683	H 77
3682	H 78
3681	H 79
3680	H 80
3679	H 81
3678	H 82
3677	H 83
3676	H 84
3675	H 85
3674	H 86
3673	H 87
3672	H 88
3671	H 89
3670	H 90
3669	H 91
3668	H 92
3667	H 93
3666	H 94
3665	H 95
3664	H 96
3663	H 97
3662	H 98
3661	H 99
3660	H 100





1100 B 3 3171 D 6  
1102 E 6 3173 B 4  
1103 E 6 3174 C 3  
1104 A 7 5102 B 4  
1105 A 7 5103 B 4  
1106 A 7 5104 C 5  
1107 A 7 5105 D 3  
2100 B 3 5106 B 7  
2103 D 3 5107 D 5  
2109 B 4 5107 B 6  
2111 B 5 5107 C 6  
2119 C 5 5108 C 6  
2123 D 4 5109 C 6  
2130 D 5 5110 E 5  
2131 D 5 5111 B 6  
2134 D 4 5112 C 7  
2135 D 4 5113 C 5  
2137 C 5 5114 C 7  
2139 B 7 5115 E 6  
2141 B 7 6104 E 4  
2144 A 4 6105 D 4  
2146 B 5 6107 C 6  
2151 E 4 7102 C 4  
2152 D 5 7103 C 5  
2153 D 4 7104 B 6  
2155 B 7 7105 C 7  
2158 C 8 7106 D 6  
2161 C 6 7107 D 5  
2165 C 6 7108 E 5  
2167 E 7 7109 E 5  
2168 D 6 7110 C 7  
2170 D 7 7112 D 4  
2172 D 6 8031 D 7  
2173 D 7 9101 E 7  
2176 E 6 9102 D 8  
2177 E 6 9103 D 8  
2182 B 7 9105 B 8  
3105 C 4 9106 D 7  
3106 C 4 9107 D 7  
3107 B 4 9109 E 6  
3108 C 4 9110 C 7  
3109 A 4 9111 E 6  
3111 B 5 9112 B 6  
3114 C 4 9115 C 6  
3116 D 4 9116 D 6  
3120 C 8 9117 C 6  
3125 D 6 9118 B 6  
3126 E 5 9119 B 5  
3128 D 4 9120 E 6  
3131 D 8 9121 B 5  
3132 B 6 9122 D 5  
3134 B 5 9123 D 5  
3135 C 8 9124 D 5  
3139 B 7 9125 D 4  
3141 E 7 9126 E 4  
3142 E 7 9129 C 4  
3143 D 7 9134 E 8  
3145 E 6 WIRE D 7  
3147 B 7  
3148 D 8  
3149 D 8  
3150 D 8  
3151 D 8  
3153 E 8

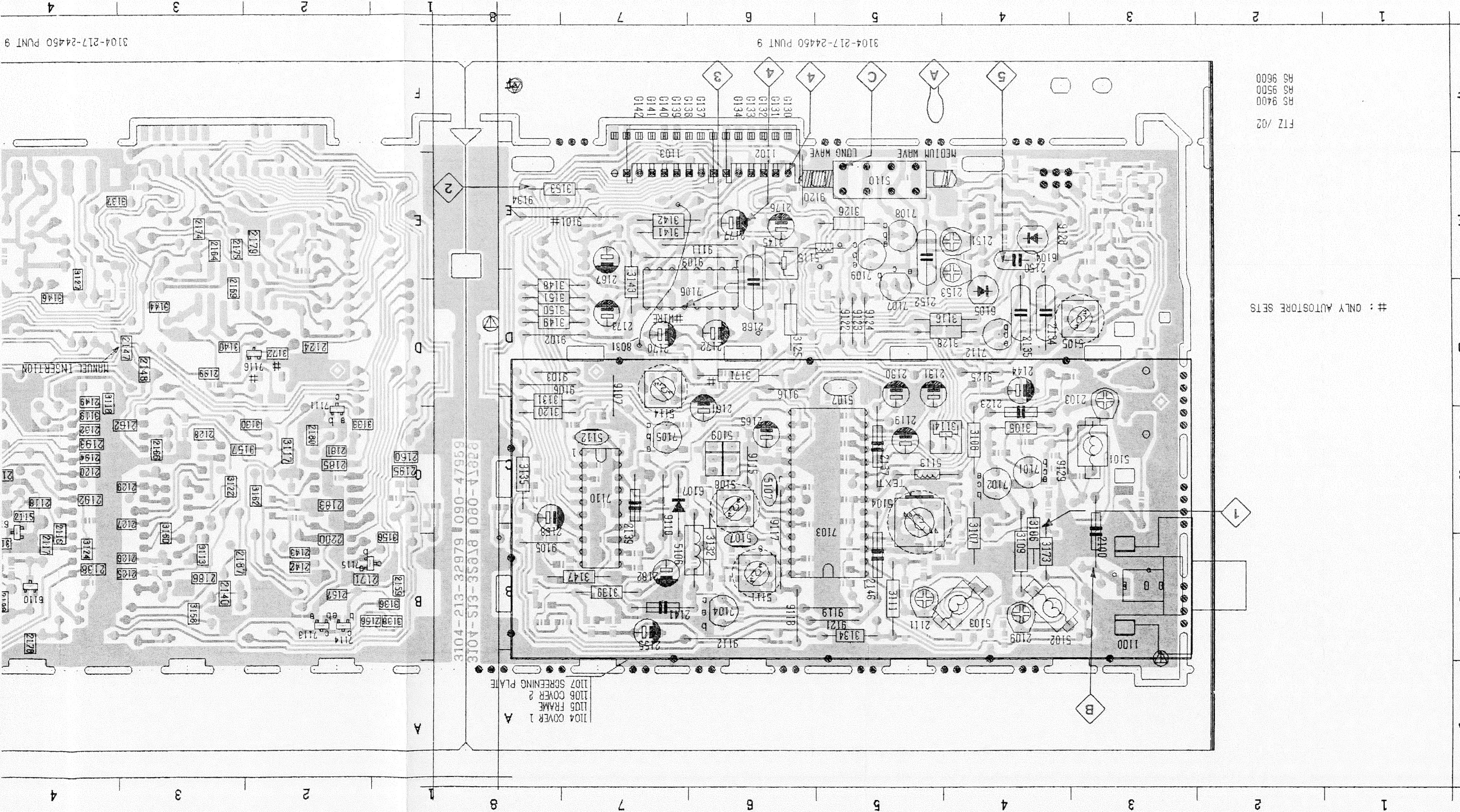
FTZ /02  
RS 9400  
RS 9500  
RS 9600

# : ONLY AUTOSTORE SETS

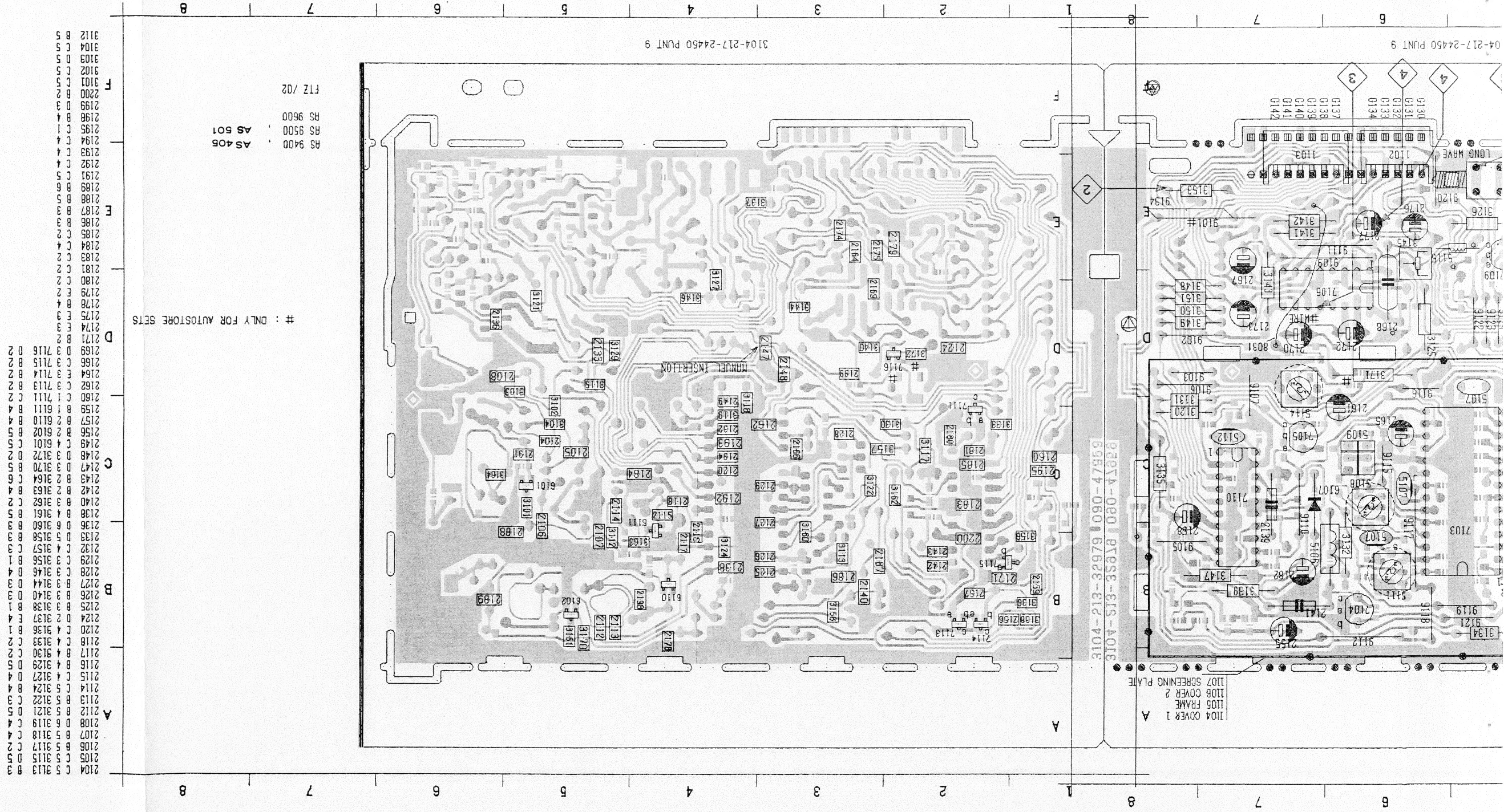
1104 COVER 1  
1105 FRAME  
1106 COVER 2  
1107 SCREENING PLATE

3104-213-32979 1090-47958  
3104-513-3538 1080-43828


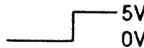

3104-217-24460 PUNT 9





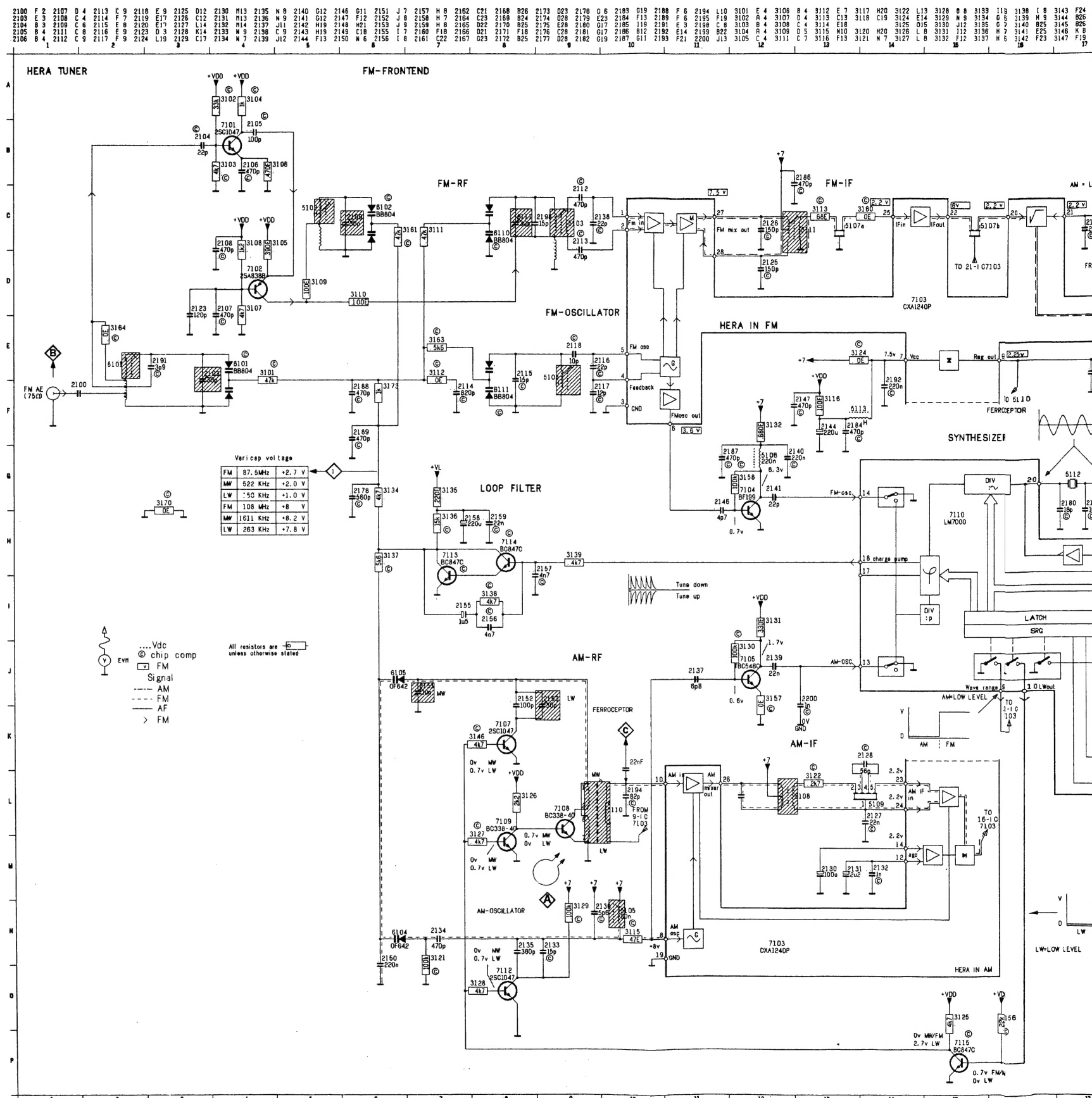




SK...	FREQUENCY	I/P	DISPLAY	ADJUST	O/P	SCOPE/METER
Varicap alignment						
FM 87.5-108MHz			108MHz	5104	1	8.0V (10.0V)
			87.5MHz	check		2.7V $\pm$ 0.4V (1.15V $\pm$ 0.25V)
LW 148-284kHz			284kHz 148kHz	5105 check	1	7.8V 1.0V $\pm$ 0.25V
MW 522-1611kHz			1611kHz 522kHz	check check		8.0V $\pm$ 0.5V 2.0V $\pm$ 0.3V
FM-IF						
FM	108MHz $\Delta f$ =500kHz (50Hz)	B	108MHz	5111	4	 Symm + Linear
FM-RF						
FM	87.5MHz mod = 1kHz $\Delta f$ = 22.5kHz	B	87.5MHz	5103 (5102) (5101)	4	max.
	108MHz mod = 1kHz $\Delta f$ = 22.5kHz		108MHz	2111 (2109) (2103)		
Stereo decoder / Search sensitivity						
FM	98MHz carrier 1mV	B	98MHz	3145 #	3	19 $\pm$ 0.05kHz
	98MHz carrier 12 $\mu$ V			3114	2	 5V 0V
AM-IF						
LW	450kHz \$ $\Delta f$ = 10kHz (50Hz)	C	284kHz	5108	4	 Symmetrical max to
AM-RF						
MW	603kHz * 1494kHz *	A	603kHz 1494kHz	5110 2151	4	max.
LW	155kHz * 275kHz *		155kHz 275kHz	5110 2153		

\* Mod 1kHz 30% AM  
\$ via 100nF  
(..) For FTZ versions only  
# Temporary ground pin 9 of 7106

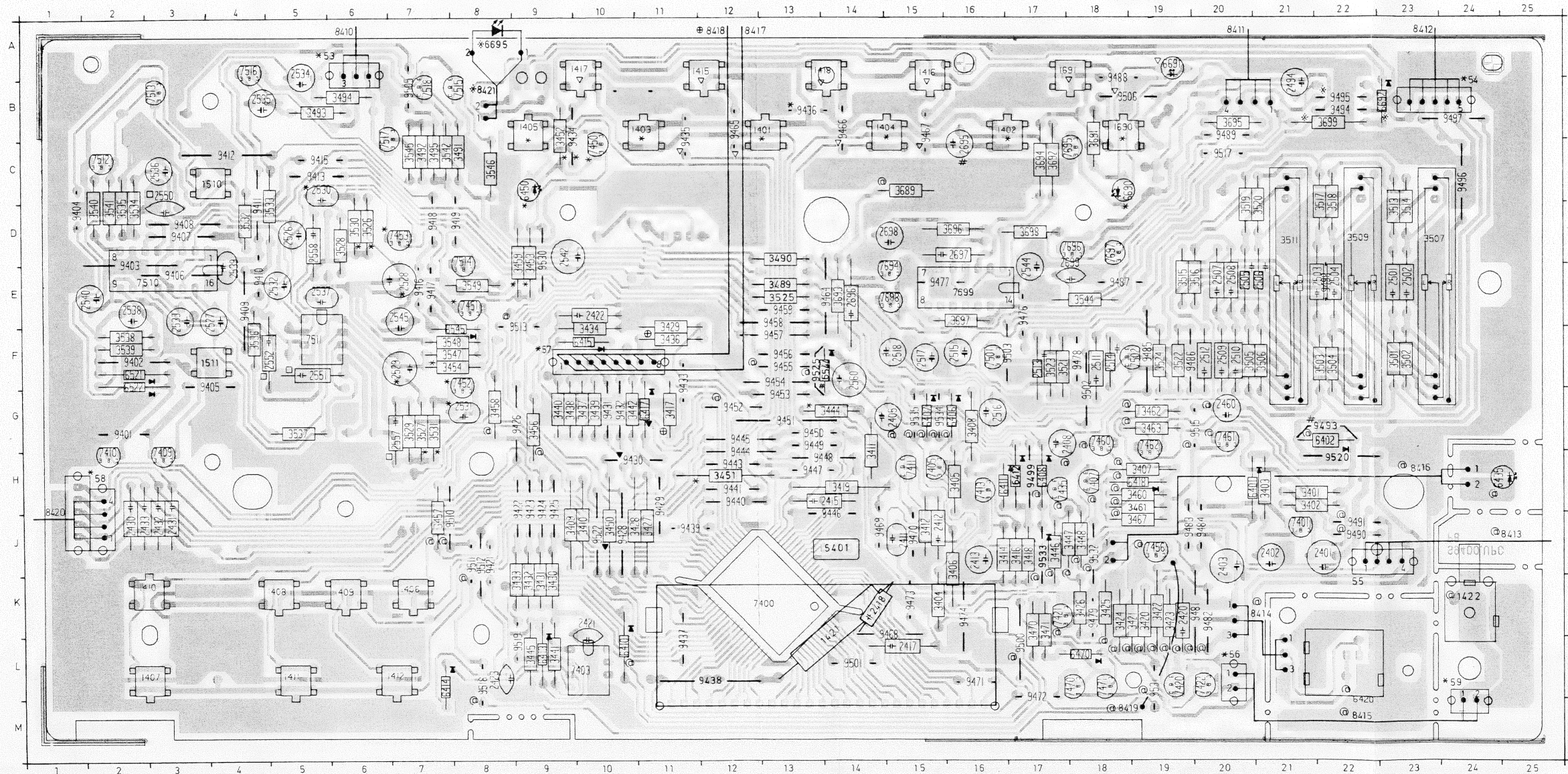
Repeat







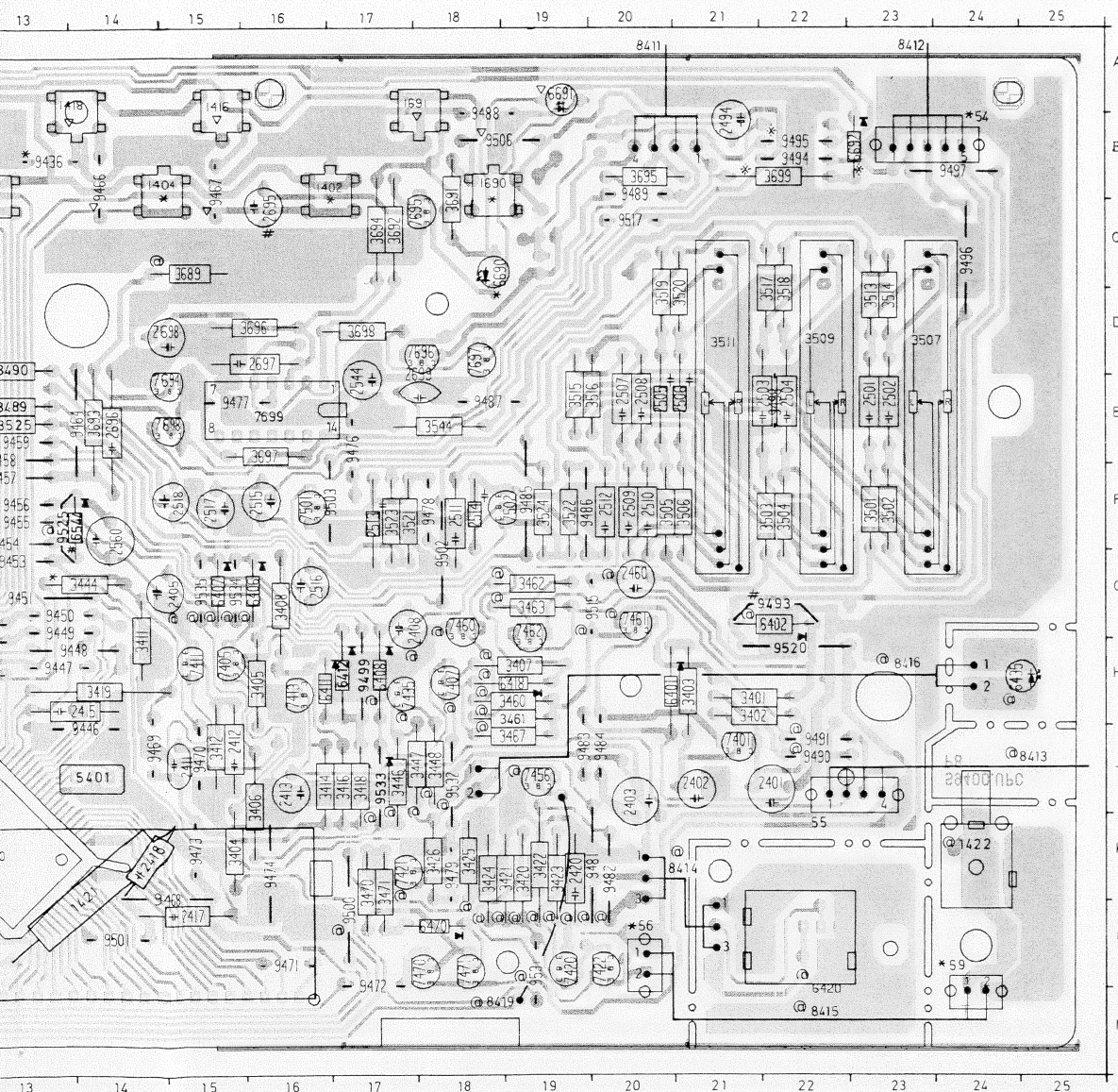
053	A5	1411	L5	2411	J15	2502	E23	2526	D5	2545	E7	3406	J16	3425	K18	3445	L9	3470	K17	3513	D23	3532	D4	3689	C15	6411	H16	6695	B23	7452	F8	7517	C7	8419	M18	9416	E7	9435	B11	9453	G13	9474	K16	9495	B22	9519	L9
054	B24	1412	L7	2412	J15	2503	E21	2527	E4	2550	C3	3407	H19	3426	K18	3446	J17	3471	K17	3514	D23	3533	D5	3691	B18	6412	H17	6695	A8	7453	D7	7518	B7	8420	H1	9417	E7	9436	B13	9454	F13	9475	E17	9496	C24	9520	H22
055	K22	1415	A12	2413	J16	2504	E22	2528	E7	2551	F5	3408	G16	3428	J10	3447	J17	3489	E13	3515	E19	3534	D2	3692	C17	6413	L9	7400	L13	7456	J19	7519	E15	8421	B8	9418	D7	9437	L11	9455	F13	9477	E15	9498	E22	9522	J10
056	L20	1416	A15	2415	H14	2505	E20	2529	F7	2555	F5	3409	J9	3429	E11	3450	J10	3490	D13	3516	E20	3535	D2	3693	E14	6414	L7	7401	J21	7460	G18	7520	C17	9401	G2	9419	D8	9438	L12	9456	F13	9478	F18	9499	H17	9525	F13
057	F9	1417	A10	2417	L15	2506	E21	2530	C5	2557	G7	3410	J10	3430	K9	3451	H12	3491	C8	3517	D22	3536	F4	3694	C17	6415	F10	7403	L10	7461	G20	7521	D18	9402	F2	9421	J8	9439	J11	9457	F13	9479	K18	9500	L17	9530	E9
058	H24	1418	A14	2418	K14	2507	E20	2531	G8	2558	D6	3411	H14	3431	K9	3452	B9	3492	C7	3518	D22	3537	G5	3695	B20	6417	G11	7405	H15	7462	G19	7522	D18	9403	D2	9422	H9	9440	H12	9458	E13	9481	K19	9501	L14	9531	L19
059	L24	1421	K14	2420	K19	2508	E20	2532	E5	2560	F14	3412	J15	3432	K9	3453	E9	3493	B5	3519	D20	3538	F2	3696	D16	6418	H19	7407	H18	7470	L18	7523	E15	9404	D1	9423	H9	9441	H12	9459	E13	9482	K20	9502	F18	9532	J18
1401	B13	1422	K24	2421	K10	2509	F20	2533	E3	2561	F14	3413	J16	3433	K9	3454	F7	3494	B6	3522	F19	3539	F2	3697	E16	6420	M22	7409	G3	7471	L18	7524	E16	9405	F3	9424	H9	9443	H12	9464	E14	9483	J19	9503	F16	9533	J17
1402	B16	1510	C3	2422	E10	2510	F20	2534	A5	2562	E14	3416	J17	3434	E10	3455	G9	3495	C7	3523	F17	3540	D2	3698	D17	6435	H24	7410	G2	7501	F16	7525	A6	9406	E3	9425	H9	9444	G12	9465	B12	9485	F19	9505	B7	9534	G15
1403	B11	1511	F3	2423	L8	2511	F18	2535	B4	2563	D16	3417	G11	3436	F11	3457	J7	3501	F23	3524	F19	3541	D2	3699	B22	6450	C9	7411	H15	7502	F19	7526	A20	9407	D3	9426	G9	9445	G12	9466	B14	9486	F19	9506	B18	9535	G15
1404	B14	1690	B18	2430	J2	2512	F20	2536	C3	2568	D15	3418	J17	3437	G10	3458	G8	3502	F23	3525	E13	3542	C7	3699	E16	6420	M22	7409	G3	7471	L18	7527	A23	9408	D3	9428	J10	9446	H14	9467	B15	9487	E18	9510	J7		
1405	B9	1691	A17	2431	J3	2513	F17	2537	E5	2569	D18	3419	H14	3438	G9	3459	E9	3503	F22	3526	D6	3544	E18	3699	E16	6420	M22	7409	G3	7471	L18	7528	J25	9409	E4	9429	J11	9447	H13	9468	K15	9488	A18	9511	J8		
1406	K7	2401	J22	2432	J3	2514	F18	2538	E2	2570	H21	3420	K19	3439	G10	3460	H19	3504	F22	3527	G7	3545	C7	3699	E16	6420	M22	7409	G3	7471	L18	7529	K21	9410	E4	9430	H10	9448	H13	9469	J14	9489	B20	9512	J8		
1407	L2	2402	J21	2433	J2	2515	F16	2539	E4	2571	H21	3421	K19	3440	G9	3461	J19	3505	F20	3528	D6	3546	C8	3699	E16	6420	M22	7409	G3	7471	L18	7530	M22	9411	D4	9431	G10	9449	G13	9470	J15	9490	J22	9513	E9		
1408	K5	2403	J20	2460	G20	2516	G16	2540	E2	2572	H21	3422	K19	3441	L9	3462	G19	3507	D23	3529	G7	3547	F7	3699	E16	6420	M22	7409	G3	7471	L18	7531	H23	9412	C4	9432	G10	9450	G13	9471	L16	9491	J22	9515	G20		
1409	K6	2405	G15	2494	B21	2517	F15	2542	D9	2573	K15	3423	K19	3442	G10	3463	G19	3509	D22	3530	D6	3548	F7	3699	E16	6420	M22	7409	G3	7471	L18	7532	A12	9413	C5	9433	F11	9451	G13	9472	L17	9493	G22	9517	C20		
1410	K2	2408	G17	2501	E23	2518	F15	2544	E17	2574	H16	3424	K18	3444	G14	3467	J19	3511	D21	3531	G7	3549	E8	3699	E16	6420	M22	7409	G3	7471	L18	7533	A12	9415	C5	9434	B9	9452	G12	9473	K15	9494	B22	9518	L8		



NOTE  
 @ NOT FOR AS9400/11, /21 & 9406/37, AS4  
 ▼ FOR -/37 ONLY  
 ⊕ FOR -/11, -/21, -/28, -/30, -/37 ON LY  
 \* FOR AS9506/37 ONLY  
 \* FOR AS9400, (AS405)  
 ▽ NOT FOR AS9400, (AS405)  
 # FOR AS9406/37 & AS9400/11, -/21, AS405/  
 □ FOR AS9402/42, AS405/2



6411 H16 6692 B23 7452 F8 7517 C7 8419 M18 9416 E7 9435 B11 9453 G13 9474 K16 9495 B22 9519 L9  
6412 H17 6695 A8 7453 D7 7518 B7 8420 H1 9417 E7 9436 B13 9454 F13 9476 E17 9496 C24 9520 H22  
6413 L9 7400 L13 7456 J19 7694 E15 8421 B8 9418 D7 9437 L11 9455 F13 9477 E15 9498 E22 9522 J10  
6414 L7 7401 J21 7460 G18 7695 C17 9401 G2 9419 D8 9438 L12 9456 F13 9478 F18 9499 H17 9525 F13  
6415 F10 7403 L10 7461 G20 7696 D18 9402 F2 9421 J8 9439 J11 9457 F13 9479 K18 9500 L17 9530 E9  
6417 G11 7405 H15 7462 G19 7697 D18 9403 D2 9422 H9 9440 H12 9458 F13 9481 K19 9501 L14 9531 L19  
6418 H19 7407 H18 7470 L18 7698 E15 9404 D1 9423 H9 9441 H12 9459 F13 9482 K20 9502 F18 9532 J18  
6420 M22 7409 G3 7471 L18 7699 E16 9405 F3 9424 H9 9443 H12 9464 E14 9483 J19 9503 F16 9533 J17  
6435 H24 7410 G2 7501 F16 8410 A6 9406 E3 9425 H9 9444 G12 9465 B12 9485 F19 9505 B7 9534 G15  
6450 C9 7411 H15 7502 F19 8411 A20 9407 D3 9426 G9 9445 G12 9466 B14 9486 F19 9506 B18 9535 G15  
6470 L18 7413 H16 7510 E2 8412 A23 9408 D3 9428 J10 9446 H14 9467 B15 9487 E18 9510 J7  
6521 F2 7420 L19 7511 F5 8413 J25 9409 E4 9429 J11 9447 H13 9468 K15 9488 A18 9511 J8  
6522 F2 7421 K17 7512 C2 8414 K21 9410 E4 9430 H10 9448 H13 9469 J14 9489 B20 9512 J8  
6544 F14 7422 L20 7513 B3 8415 M22 9411 D4 9431 G10 9449 G13 9470 J15 9490 J22 9513 E9  
6545 F7 7435 H17 7514 D8 8416 H23 9412 C4 9432 G10 9450 G13 9471 L16 9491 J22 9515 G20  
6690 C18 7450 C10 7515 B8 8417 A12 9413 C5 9433 F11 9451 G13 9472 L17 9493 G22 9517 C20  
6691 A19 7451 E8 7516 A4 8418 A12 9415 C5 9434 B9 9452 G12 9473 K15 9494 B22 9518 L8



NOTE  
(Δ) NOT FOR AS9400/11, /21 & 9406/37, AS405/01/21  
▼ FOR /37 ONLY  
⊕ FOR /11, /21, /28, /30, /37 ONLY  
\* FOR AS9506/37 ONLY  
\* FOR AS9400, (AS405)  
▽ NOT FOR AS9400, (AS405)  
# FOR AS9406/37 & AS9400/11, /21, AS405/01/21  
□ FOR AS9402/42, AS405/22

+5 - 5V  
+F - 8V  
+G - 10.4V

7510	7511
1 - 0V	1 - 4.0V
2 - 4.0V	2 - 4.0V
3 - 4.0V	3 - 4.0V
4 - 4.0V	4 - 0V
5 - 4.0V	5 - 4.0V
6 - 4.0V	6 - 4.0V
7 - 8.0V	7 - 4.0V
8 - 6.9V	8 - 8.0V
9 - 8.0V	
10 - 8.0V	
11 - 4.0V	
12 - 4.0V	
13 - 4.0V	
14 - 4.0V	
15 - 4.0V	
16 - 8.0V	

7401	7695
e - 5.2V	e - 0V
b - 5.8V	b - -
c - 9.7V	c - 8.9V

7501	7502
e - 0V	e - 0V
b - 0.6V	b - 0.6V
c - 4.0V	c - 4.0V



When h  
down d  
after wh  
both key

The load

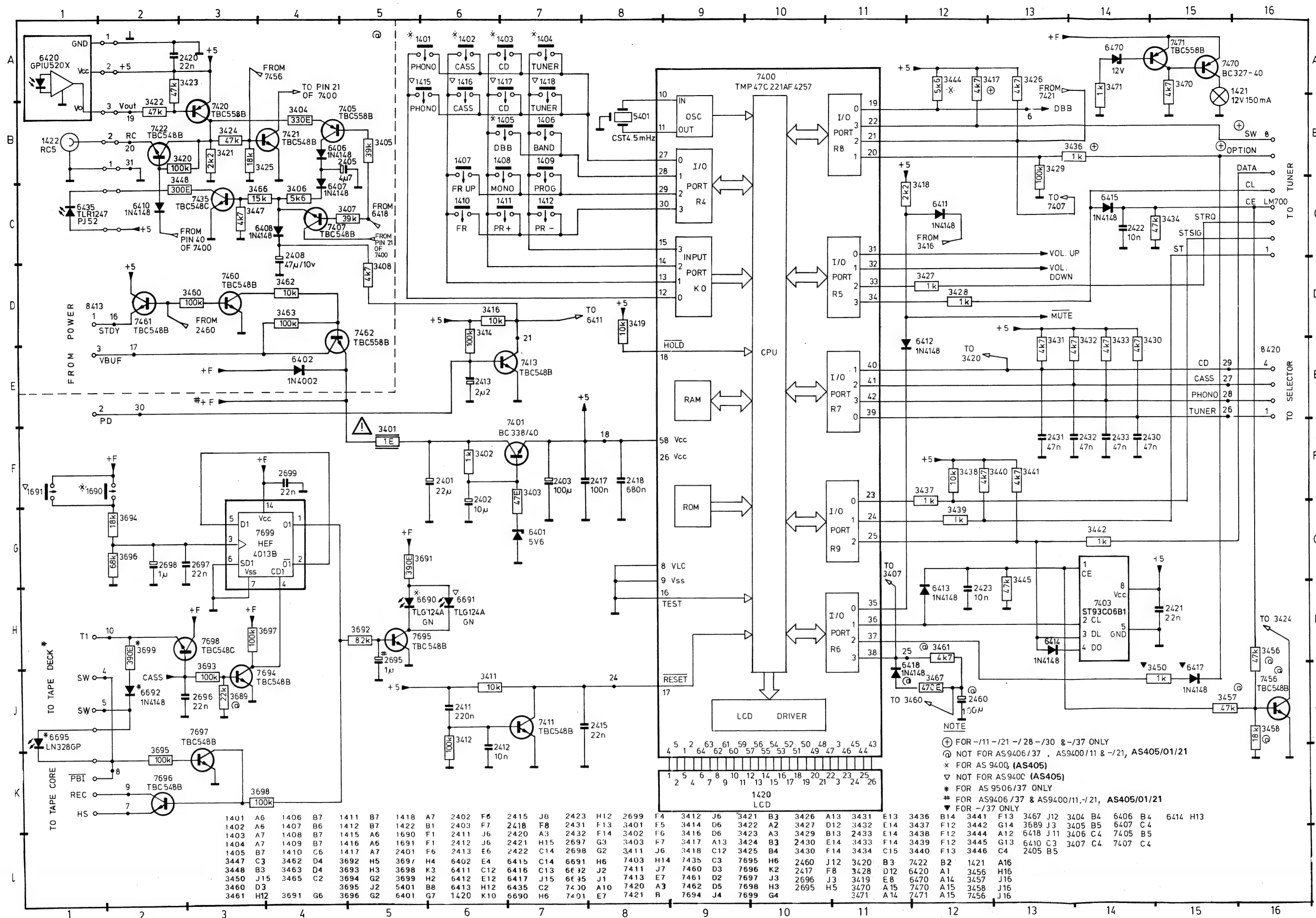
Preset

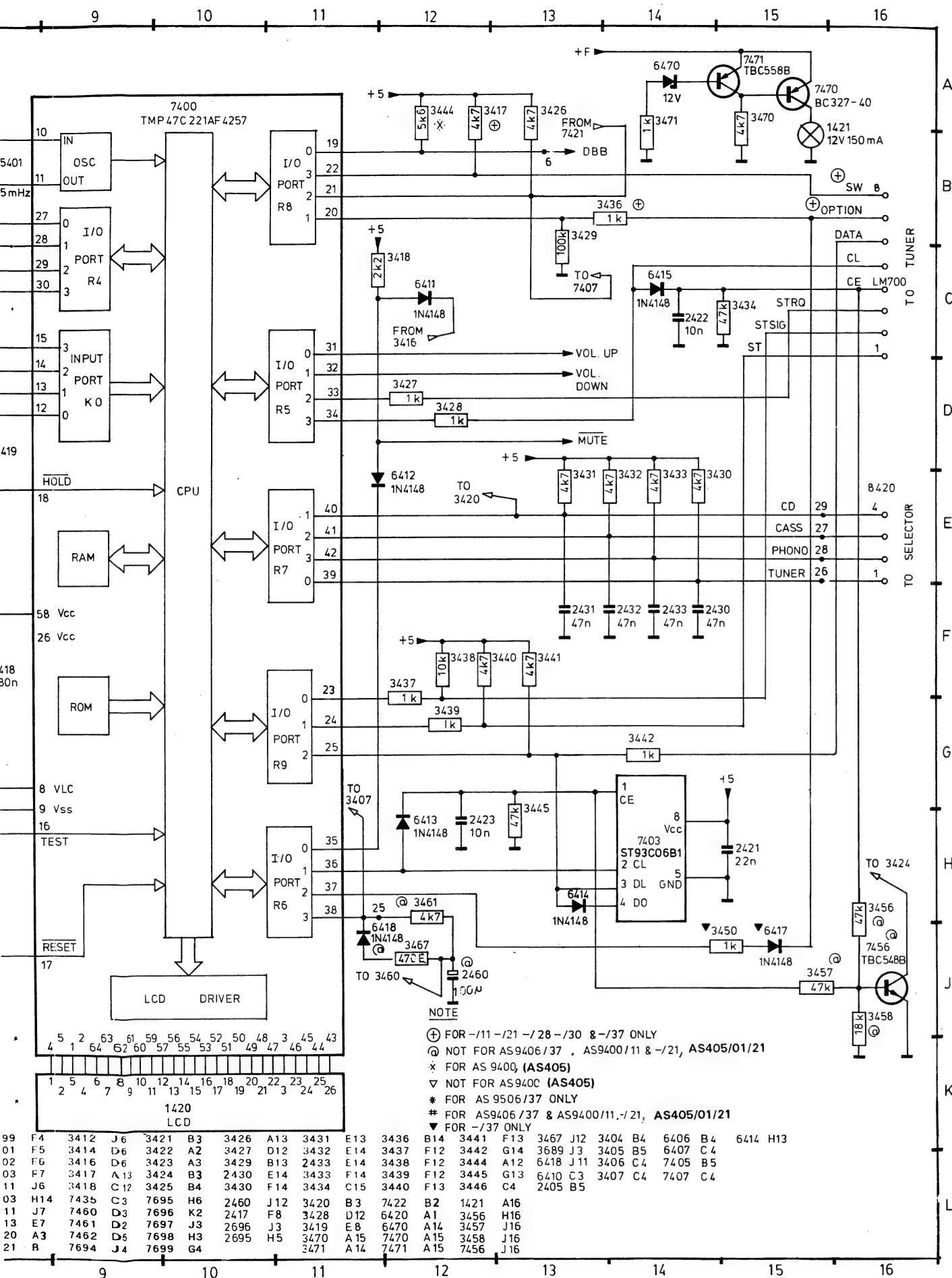
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

LCD Dis

SWLW  
MW  
AM  
FM

digit





## SELF-TEST PROCEDURE

When holding the program-key and preset-up key down during power up the EEROM is loaded after which the display lights completely until both keys are released.

The loaded information are as follows:

Preset	Frequency		Band
		POL USA	FM
0	87.50	65.00 87.5	
1	97.00	65.00 106.5	
2	98.00	65.00 87.5	
3	99.00	65.00 87.5	
4	108.00	65.00 87.5	
		USA	MW
5	522	530	
6	567	580	
7	603	620	
8	1278	1370	
9	1494	1610	
10	1611		
			LW
11	148		
12	155		
13	200		
14	275		
15	284		
		EUR	SW
16	3820	5820	
17	3900	5900	
18	11900	13900	
19	12100	14100	

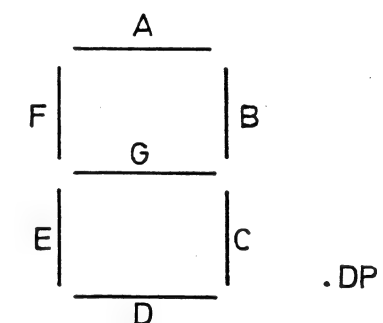
## LCD Display

SWLW							
MW							
AM							
FM							
digit	1	2	3	4	5	6	7

STEREO				
PROGR				
kHz				
mHz				

## LCD Display / uProcessor interconnection

COM2	COM1	LCD Pin	uProc Pin
7C	7D	26	43
7G	7E	25	44
7B	7F	24	45
6B	7A	23	46
5C	5D	22	47
5G	5E	21	48
5B	5F	20	49
KHZ	5A	19	50
4C	4D	18	51
4G	4E	17	52
4B	4F	16	53
LW	4A	15	54
3C	3D	14	55
3G	3E	13	56
3B	3F	12	57
SW	3A	11	59
2C	2D	10	60
2G	2E	9	61
2B	2F	8	62
1BC	2A	7	63
MW	MHZ,FM,DP	6	64
PROGR	AM	5	1
STEREO	6ADG	4	2
6E	6C	3	3
COM2	-	2	5
-	COM1	1	4



**(GB) WARNING**

All IC's and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.  
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

**(F) ATTENTION**

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation.  
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité.  
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

**(D) WARNUNG**

Alle IC's und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes.  
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.








**(NL) WAARSCHUWING**







Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.  
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**(I) AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cautela alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza.  
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**ESD**

	Carbon film 0.2 W CR16	70°C	5%
	Carbon film 0.33 W CR25	70°C	5%
	Carbon film 0.5 W CR37	70°C	5%
	Standard film 0.5 W SFR16T	70°C	5%
	Standard film 0.4 W SFR25	70°C	5%
	Metal film 0.6 W MRS25	70°C	5%
	Safety resistor		
<div><div>Ⓒ</div><div>Chip component</div></div>			

	Plate ceramic Tuning < 120 pF Others	2% -20/+80%
	Tubular ceramic	
	Polystyrene film / foil	1%
	Polyester Film / foil	10%
	Mylar	10%
	Electrolytic	

a = 2.5 V

b = 4 V

c = 6.3 V

d = 10 V

e = 16 V

f = 25 V

g = 40 V

h = 63 V

j = 100 V

l = 125 V

m = 150 V

n = 160 V

q = 200 V

r = 250 V

s = 300 V

t = 350 V

u = 400 V

v = 500 V

w = 630 V

x = 1000 V

A = 1.6 V

B = 6 V

C = 12 V

D = 15 V

E = 20 V

F = 35 V

G = 50 V

H = 75 V

I = 80 V

26338

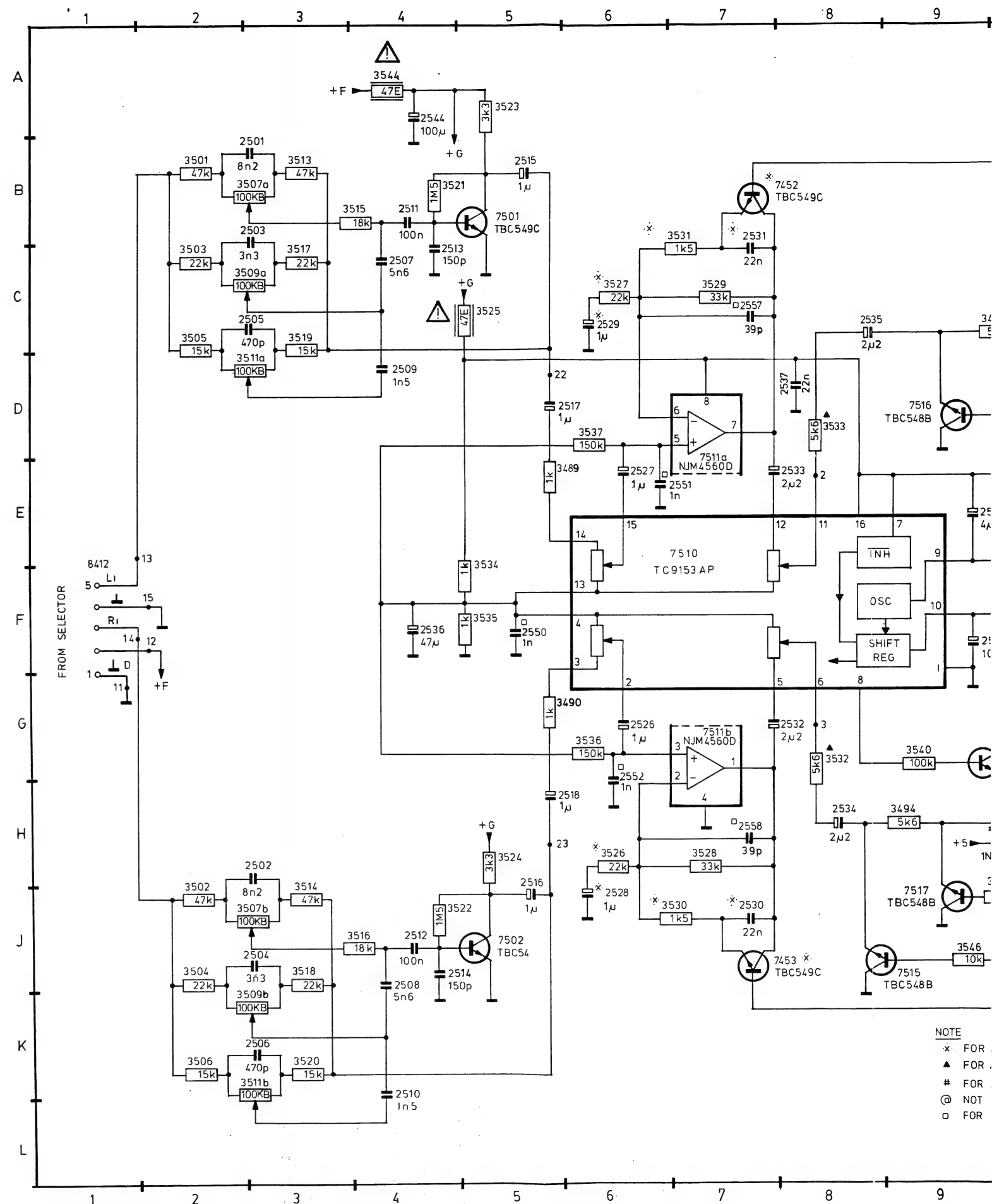
**(GB)** Because, generally speaking, MOS IC's are very sensitive to overload and too high voltages, measurements should be carried out with greatest possible care.  
For further instructions, see the directions enclosed in the separate IC-packages.

**(F)** Parce qu'en général, les IC MOS sont très sensibles à la surcharge et à des tensions trop élevées, il faudra procéder aux mesures avec le plus grand soin.  
Pour plus de détails, voir les instructions accompagnant l'emballage des IC.

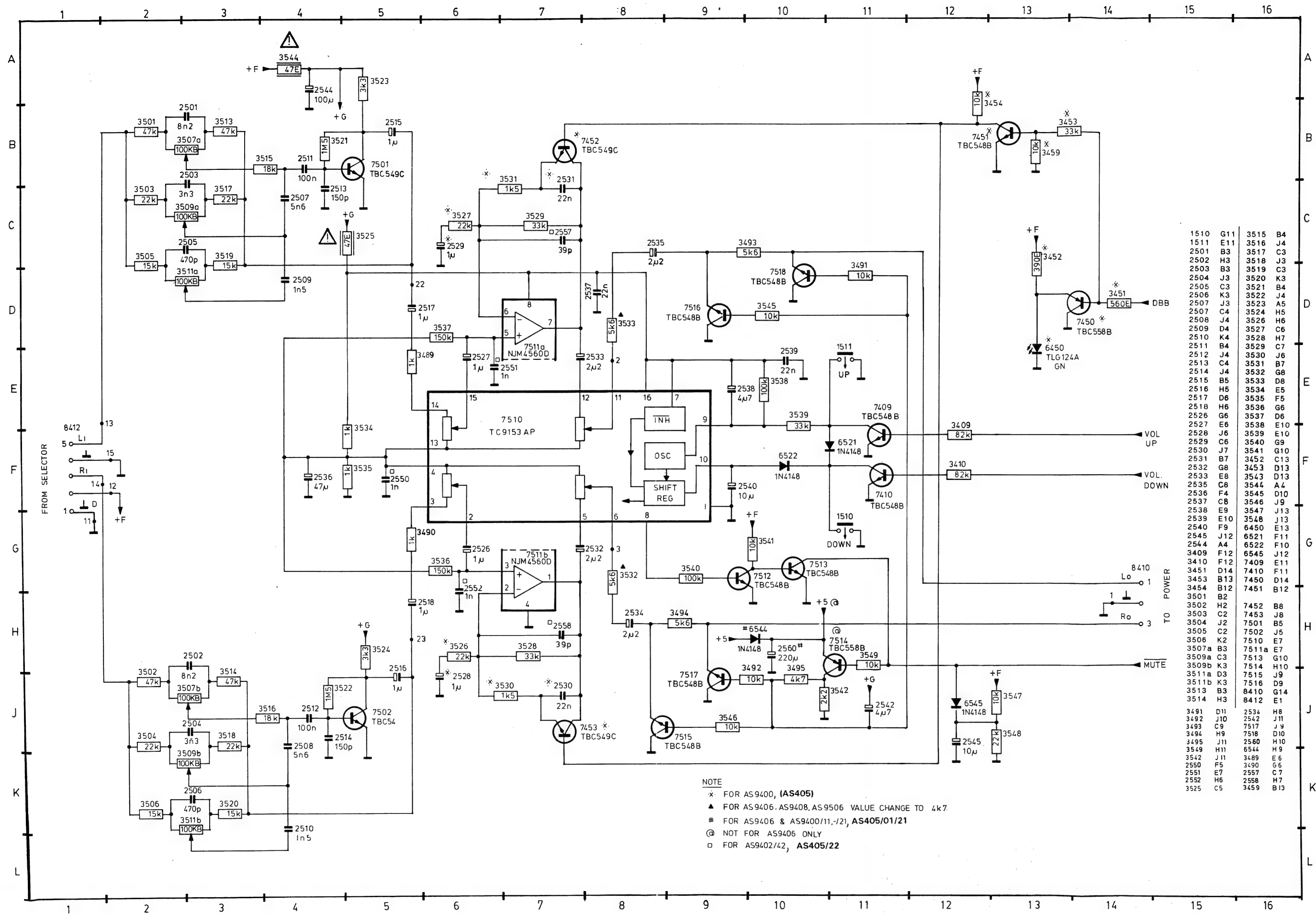
**(I)** Dato che gli IC MOS sono molto sensibili alla sovraccarica e alle tensioni troppo alte, occorrerà procedere alle misure con particolare cautela.  
Per altri particolari riferirsi alla istruzioni comprese nell'imballaggio di ogni IC.

**(NL)** Omdat MOS IC's in het algemeen zeer gevoelig zijn voor overbelasting en te hoge spanning dient bij het meten de grootst mogelijke zorgvuldigheid in acht genomen te worden. Zie voor verdere instructies de bijsluit in de verpakking van de IC's.

**(D)** Da MOS IC's im allgemeinen sehr empfindlich gegen Überbelastung und zu hohe Spannung sind, muss man beim Messen äusserst vorsichtig vorgehen.  
Für weitere Weisungen siehe den beigelegten Zettel in der Verpackung der IC's.

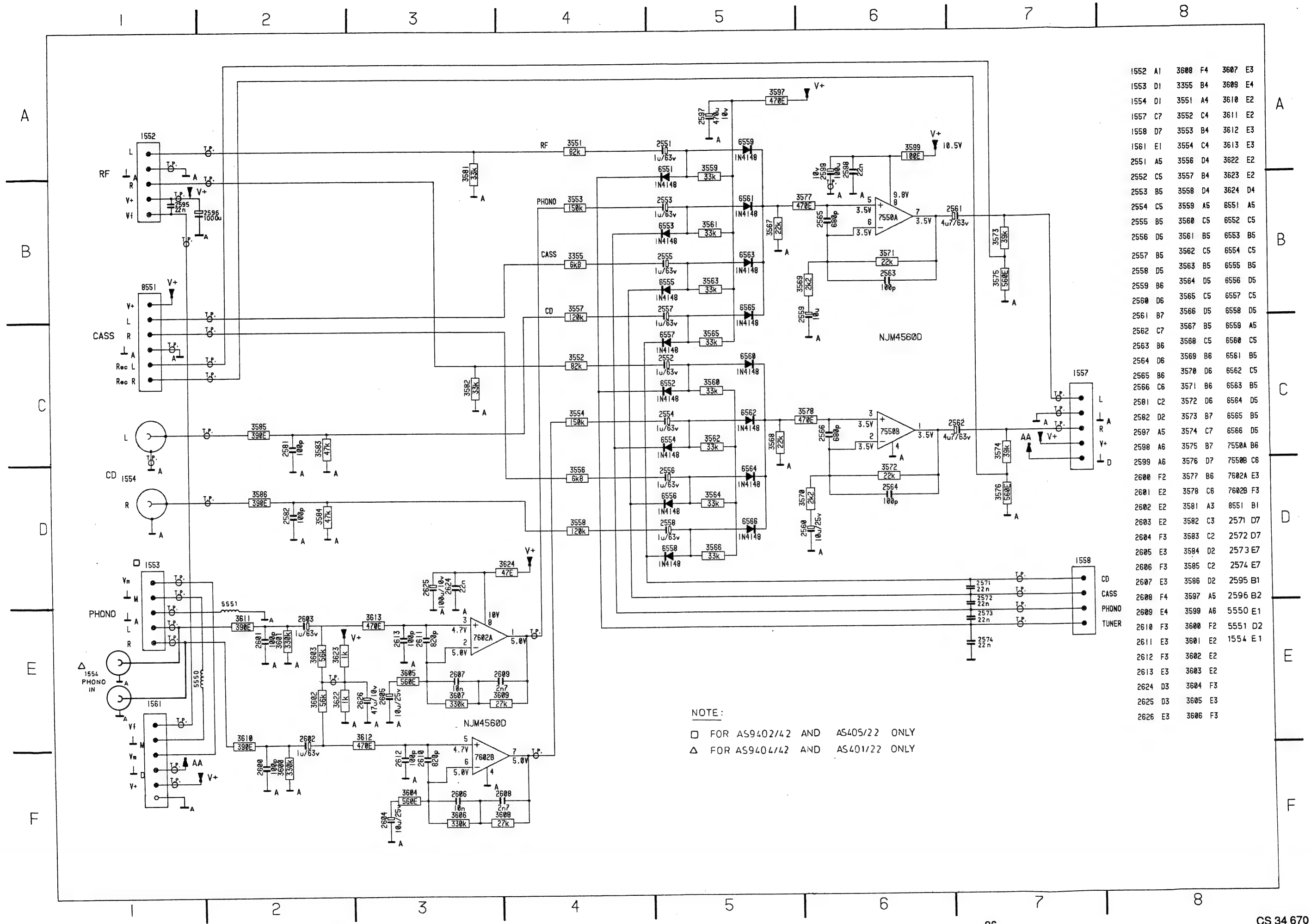
**NOTE**

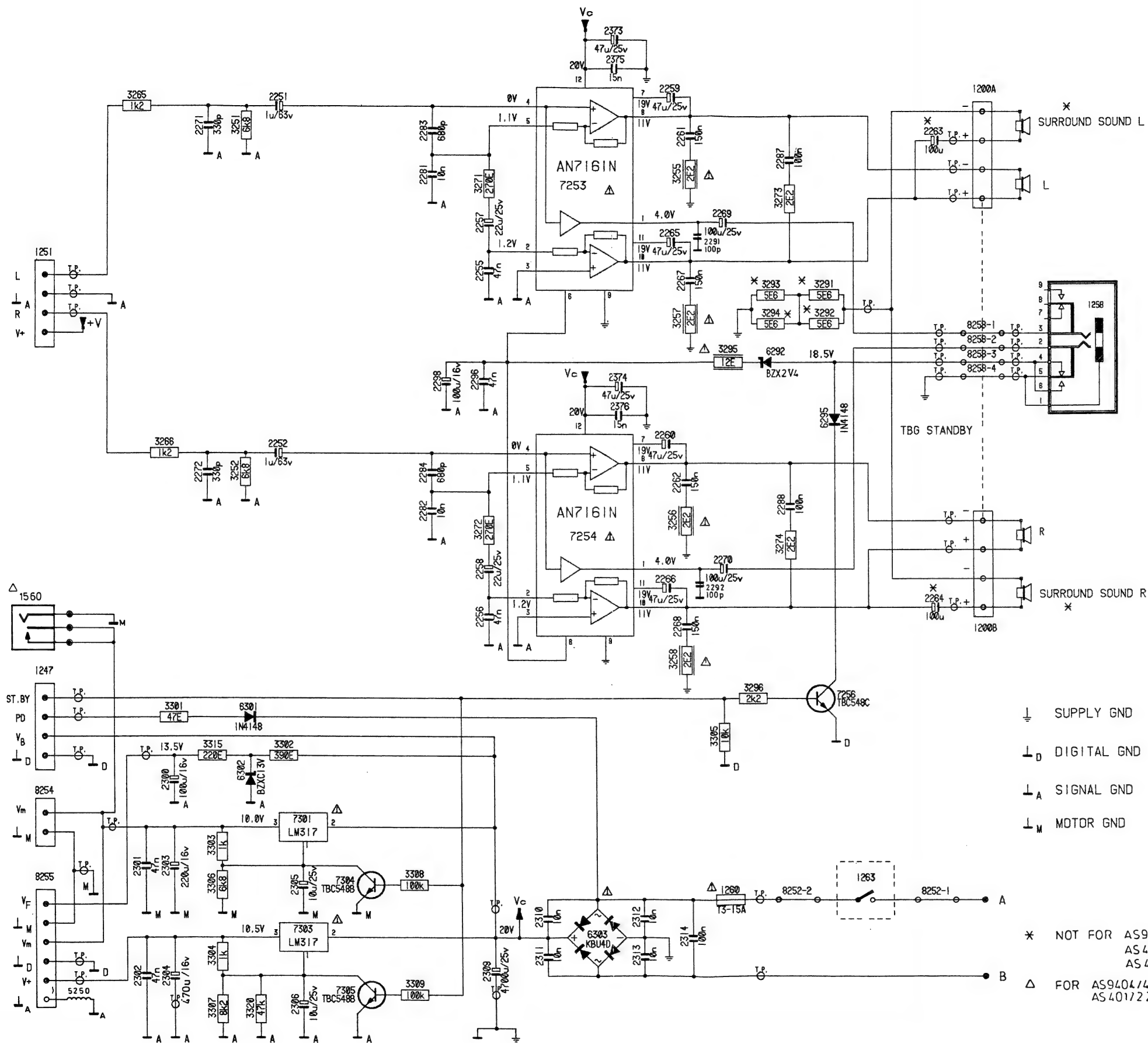
\* FOR  
▲ FOR  
# FOR  
@ NOT  
□ FOR



1510	G11	3515	B4
1511	E11	3516	J4
2501	B3	3517	C3
2502	H3	3518	J3
2503	B3	3519	C3
2504	J3	3520	K3
2505	C3	3521	B4
2506	K3	3522	J4
2507	J3	3523	A5
2508	J4	3524	H5
2509	D4	3525	C6
2510	K4	3526	H7
2511	B4	3527	C7
2512	J4	3528	J6
2513	C4	3529	B7
2514	J4	3530	G8
2515	B5	3531	D8
2516	H5	3532	E5
2517	D6	3533	F5
2518	H6	3534	G6
2519	G6	3535	D6
2520	E6	3536	E10
2521	J6	3537	E10
2522	C6	3538	G9
2523	J7	3539	G10
2524	B7	3540	C13
2525	G8	3541	D13
2526	E8	3542	A4
2527	C8	3543	D10
2528	F4	3544	J13
2529	C8	3545	J13
2530	E9	3546	E13
2531	F9	3547	E13
2532	A4	3548	E13
2533	F12	3549	F10
2534	F12	3550	J12
2535	F12	3551	E11
2536	D14	3552	F11
2537	B13	3553	D14
2538	B12	3554	B12
2539	H2	3555	B8
2540	C2	3556	J8
2541	J2	3557	B5
2542	C2	3558	J5
2543	K2	3559	E7
2544	B3	3560	E7
2545	C3	3561	G10
2546	K3	3562	H10
2547	D3	3563	J9
2548	K3	3564	D9
2549	B3	3565	G14
2550	H3	3566	E1
2551	D11	3567	H8
2552	J10	3568	J11
2553	C9	3569	J9
2554	H9	3570	D10
2555	J11	3571	H10
2556	H11	3572	H9
2557	J11	3573	E6
2558	F5	3574	G6
2559	E7	3575	C7
2560	H6	3576	H7
3525	C5	3577	B13







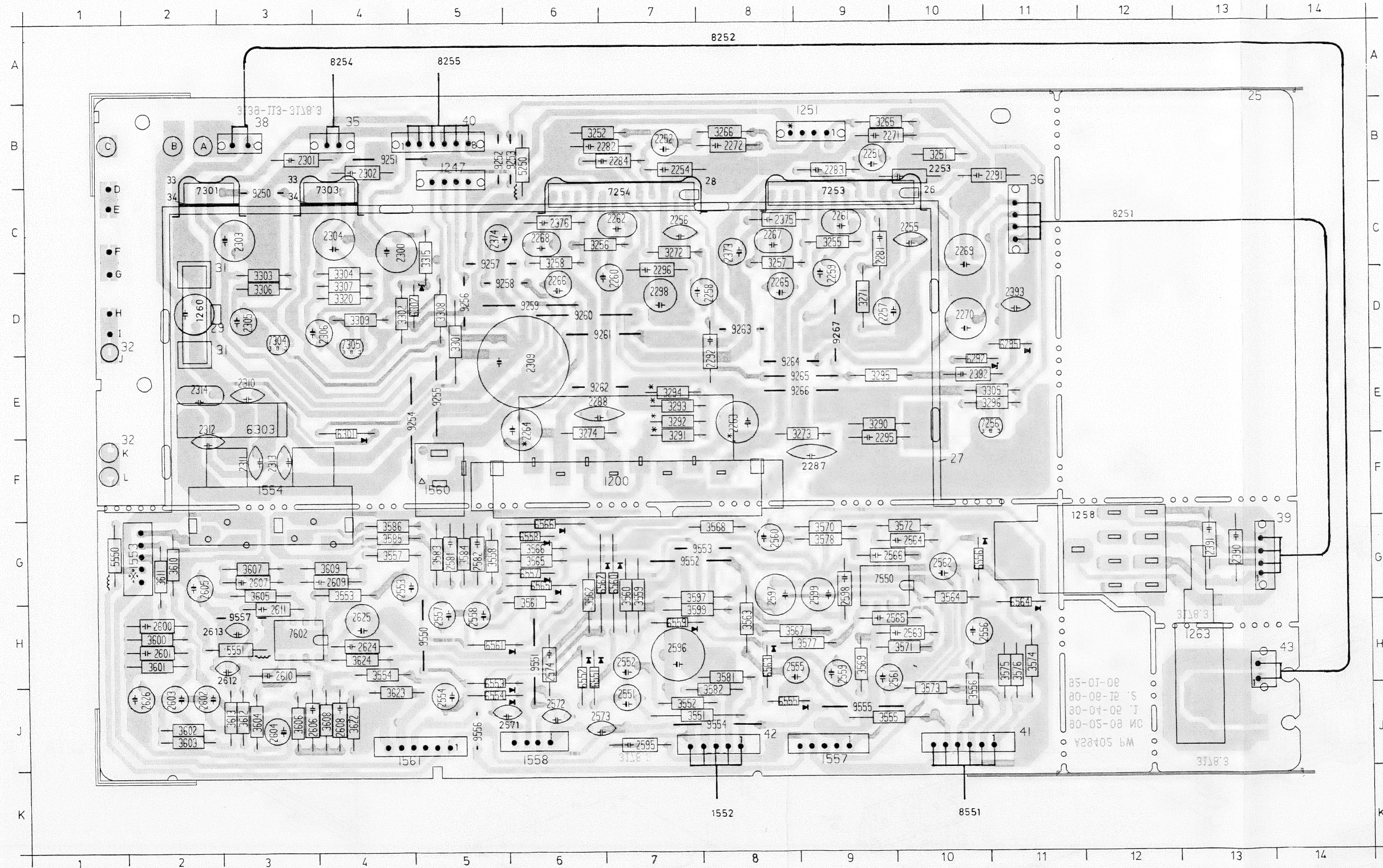
⊥ SUPPLY GND  
 ⊥<sub>D</sub> DIGITAL GND  
 ⊥<sub>A</sub> SIGNAL GND  
 ⊥<sub>M</sub> MOTOR GND

\* NOT FOR AS9402/42  
 AS405/22  
 AS401/22  
 Δ FOR AS9404/42  
 AS401/22

1200A A7	2373 A5
1200B D7	2374 C5
1247 D2	2375 A5
1251 B2	2376 C5
1258 B7	3251 A3
1260 F5	3252 C3
1263 E6	3255 B5
2251 A3	3256 C5
2252 B3	3257 B5
2255 B4	3258 D5
2256 D4	3265 A2
2257 B4	3266 C2
2258 D4	3271 B4
2259 A5	3272 D4
2260 C5	3273 B6
2261 A5	3274 D6
2262 C5	3291 B6
2263 A6	3292 B6
2264 D6	3293 B5
2265 B5	3294 B5
2266 D5	3295 C5
2267 B5	3296 D5
2268 D5	3301 E2
2269 B5	3302 E3
2270 D5	3303 E2
2271 A2	3304 F2
2272 C2	3305 E5
2281 B4	3306 F2
2282 C4	3307 F2
2283 A4	3308 E4
2284 C4	3309 F3
2287 B6	3315 E2
2288 C6	3320 F3
2296 C4	6292 C6
2298 C4	6295 C6
2300 E2	6301 E3
2301 E2	6302 E3
2302 F2	6303 F5
2303 E2	7253 B4
2304 F2	7254 D4
2305 E3	7256 D6
2306 F3	7301 E3
2309 F4	7304 E3
2310 F4	7305 F3
2311 F4	8251 B7
2312 F5	8252 E6
2313 F5	8254 E2
2314 F5	8255 E2
2291 B5	5250 F2
2292 D5	1560 D2






0025	B14	0034	C2	1247	B5	2251	B9	2262	C7	2272	B8	2301	B3	2313	F3	2555	H8	2565	H9	2603	J2	2613	H3	3265	B9	3295	E9	3309	D4	3558	G5	3568	G8	3578	G9	3601	H2	3611	G2	6303	D3	6560	G7	7301	C2	8551	K10	9258	D5	9551	H6	2571	J5	3290	E9
0026	C10	0035	B4	1251	B9	2252	B7	2263	E8	2281	C9	2302	B4	2314	E2	2556	H10	2566	G9	2604	J3	2624	H4	3266	B8	3296	E11	3315	C5	3559	G7	3569	H9	3581	H8	3602	J2	3612	J3	6551	H6	6561	H5	7303	D4	1552	K8	9259	D6	9552	G7	2572	J6	3250	B6
0027	F10	0036	B11	1260	D2	2253	B10	2264	E6	2282	B7	2303	C3	2313	C8	2557	H5	2581	G5	2605	G2	2625	H4	3271	D9	3301	D5	3320	D4	3560	G7	3570	G9	3582	J8	3603	J2	3613	J3	6552	H6	6562	G6	7304	D3	1553	C3	9260	D6	9553	G7	2573	J6	3251	H3
0028	C8	0038	B3	1263	J13	2254	B7	2265	D8	2283	B9	2304	C4	2314	C5	2558	H5	2582	G5	2606	J3	2626	J2	3272	C7	3302	D4	3551	H7	3561	H6	3571	H10	3583	G5	3604	J3	3622	J4	6553	H5	6563	H8	7305	D4	1554	B4	9261	D6	9554	J8	2574	H6	3252	B5
0029	D2	0039	G14	1258	G12	2255	C10	2266	D6	2284	B7	2305	D3	2315	C8	2559	H9	2597	G8	2607	G3	3251	C10	3273	E9	3303	D3	3552	J7	3562	G6	3572	G10	3584	G5	3605	G3	3623	J4	6554	J5	6564	H11	7306	D9	1555	G9	9262	E6	9555	J9	2575	J7	3253	B5
0031	D2	0040	B5	1553	G1	2256	C7	2267	C8	2287	F9	2306	D4	2316	C6	2560	G8	2598	G9	2608	J4	3252	B6	3274	E6	3304	D4	3553	G4	3563	H8	3573	J10	3585	G4	3606	J3	3624	H4	6555	J8	6565	G6	7307	D5	1556	H3	9263	D8	9556	J5	2576	J7	3254	B6
0032	E1	0041	J11	1554	F3	2257	D9	2268	C6	2288	E6	2309	E6	2317	C7	2561	H7	2599	G9	2609	G4	3255	C9	3291	F7	3305	E11	3554	H4	3564	G10	3574	H11	3586	G4	3607	G3	6292	E10	6556	G10	6566	G6	8254	A4	9264	E5	9264	E9	2258	D7	5550	G2		
0033	B2	0042	J8	1557	J9	2259	D9	2269	C10	2296	D7	2310	D3	2318	J7	2562	G10	2600	H2	2610	H3	3256	C6	3292	E7	3306	D3	3555	J9	3565	G6	3575	H11	3597	G7	3608	J4	6295	D11	6557	G6	7253	C9	8255	A5	9265	E5	9265	E9	2291	B11	5551	H3		
0033	B3	0043	H14	1558	J6	2260	D7	2270	D10	2298	D7	2311	F3	2319	F3	2563	G4	2601	H2	2611	H3	3257	C8	3293	E7	3307	D4	3556	J10	3566	G6	3576	H11	3599	H7	3609	G4	6301	D4	6558	G6	7254	C7	8256	A8	9266	F9	9266	F9	2292	E8				
0034	C3	1200	F7	1561	J4	2261	C9	2271	B9	2300	C4	2312	F2	2320	J5	2564	G10	2602	J2	2612	H3	3258	C6	3294	E7	3308	D5	3557	G4	3567	H8	3577	H9	3600	H2	3610	G2	6302	D5	6559	H7	7255	E11	8257	C12	9267	C5	9267	C5	2295	F9				






NOTE :  
ITEM MARKED \* NOT FOR 3139 118 80190 (AS9402/42), AS401/22 , AS405/22  
ITEM MARKED Δ FOR 3139 118 80300 ( AS9404/42 ) , AS401/22  
ITEM MARKED ✱ NOT FOR AS401/22 , AS9404/42








					
3725	4822 051 10101	100Ω 2% 0.25W	5001	4822 157 40202	TOROID
3727	4822 050 22205	2M2 1% 0.6W	5101	4822 156 30947	FM RF COIL
3730	4822 050 21002	1k 1% 0.6W	5102	4822 156 30947	FM RF COIL
3731	4822 050 23302	3k3 1% 0.6W	5103	4822 156 30947	FM RF COIL
3732	4822 050 21003	10k 1% 0.6W	5104	4822 157 53199	OSC COIL
3735	4822 050 21203	12k 1% 0.6W	5105	4822 156 10459	AM OSC COIL
3736	4822 116 52264	27k 5% 0.5W	5106	4822 157 53192	COIL 0.22μH
3737	4822 116 52224	470Ω 5% 0.5W	5107	4822 242 72096	CER FILTER
3738	4822 050 22203	22k 1% 0.6W	5108	4822 158 60511	AM IF COIL
3739	4822 116 52224	470Ω 5% 0.5W	5109	4822 242 71878	CER FILTER 450kHz
3741	4822 050 21002	1k 1% 0.6W	5110	4822 526 10466	FERROCEPTOR
3742	4822 050 21002	1k 1% 0.6W	5111	4822 157 60373	FM IF COIL
3743	4822 050 22203	22k 1% 0.6W	5112	4822 303 50034	X'TAL 7.2MHz
3744	4822 050 22204	220k 1% 0.6W	5113	4822 157 53447	BEAD INDUCTOR
3745	4822 116 52244	15k 5% 0.5W	5114	4822 158 60509	ADJUSTABLE COIL
3746	4822 116 52224	470Ω 5% 0.5W	5115	4822 157 53447	BEAD INDUCTOR
3747	4822 116 52234	100k 5% 0.5W	5250	4822 157 53447	BEAD INDUCTOR
3749	4822 050 24702	4k7 1% 0.6W	5300	4822 146 30863 Δ	MAINS TRANSFORMER
3751	4822 116 52224	470Ω 5% 0.5W	5401	4822 242 73577	RESONATOR 4.5MHz
3752	4822 116 52224	470Ω 5% 0.5W	5550	4822 157 53447	BEAD INDUCTOR
3753	4822 116 52224	470Ω 5% 0.5W	5551	4822 157 53447	BEAD INDUCTOR
3754	4822 050 22204	220k 1% 0.6W	5701	4822 157 51238	COIL 820μH
3755	4822 050 22709	27Ω 1% 0.6W	5702	4822 157 51238	COIL 820μH
3756	4822 050 21002	1k 1% 0.6W			
3760	4822 050 15602	5k6 1% 0.4W			
3761	4822 116 52234	100k 5% 0.5W	6101	4822 130 81643	BB804
3763	4822 050 26802	6k8 1% 0.6W	6102	4822 130 81643	BB804
3766	4822 050 21002	1k 1% 0.6W	6104	4822 130 32227	OF642
3767	4822 050 22202	2k2 1% 0.6W	6105	4822 130 32227	OF642
3768	4822 116 52224	470Ω 5% 0.5W	6107	4822 130 34174	BZX79-C4V7
3769	4822 050 22203	22k 1% 0.6W	6110	4822 130 81643	BB804
3770	4822 116 52224	470Ω 5% 0.5W	6111	4822 130 81643	BB804
3771	4822 116 52224	470Ω 5% 0.5W	6292	4822 130 31253	BZX79-C2V4
3772	4822 116 52224	470Ω 5% 0.5W	6295	4822 130 30621	1N4148
3773	4822 116 52224	470Ω 5% 0.5W	6301	4822 130 30621	1N4148
3774	4822 050 22204	220k 1% 0.6W	6302	4822 130 34195	BZX79-C13
3775	4822 051 10101	100Ω 2% 0.25W	6303	4822 130 82289 Δ	KBU6DL-7002
3778	4822 052 10189 Δ	18Ω 5% 0.33W	6401	4822 130 34173	BZX79-C5V6
3779	4822 050 26804	680k 1% 0.6W	6402	5322 130 30684	1N4002
3780	4822 050 21002	1k 1% 0.6W	6406	4822 130 30621	1N4148
3781	4822 050 23302	3k3 1% 0.6W	6407	4822 130 30621	1N4148
3782	4822 050 21002	1k 1% 0.6W	6408	4822 130 30621	1N4148
3785	4822 050 21203	12k 1% 0.6W	6410	4822 130 30621	1N4148
3786	4822 116 52264	27k 5% 0.5W	6411	4822 130 30621	1N4148
3788	4822 050 22203	22k 1% 0.6W	6412	4822 130 30621	1N4148
3789	4822 116 52224	470Ω 5% 0.5W	6413	4822 130 30621	1N4148
3791	4822 050 21002	1k 1% 0.6W	6414	4822 130 30621	1N4148
3792	4822 050 21002	1k 1% 0.6W	6415	4822 130 30621	1N4148
3796	4822 050 22203	22k 1% 0.6W	6418	4822 130 30621	1N4148
3797	4822 050 21002	1k 1% 0.6W	6420	4822 130 81254	GP1U520X
3798	4822 050 28201	820Ω 1% 0.6W	6435	4822 130 31274	TLR124
3799	4822 116 52234	100k 5% 0.5W	6450	4822 130 32472	TLG124A
			6470	4822 130 34197	BZX79-C12


					
6521	4822 130 30621	1N4148	7403	4822 209 31168	ST93C06B1
6522	4822 130 30621	1N4148	7405	4822 130 44197	TBC558B
6545	4822 130 30621	1N4148	7407	4822 130 40937	TBC548B
6551	4822 130 30621	1N4148	7409	4822 130 40937	TBC548B
6552	4822 130 30621	1N4148	7410	4822 130 40937	TBC548B
6553	4822 130 30621	1N4148	7411	4822 130 40937	TBC548B
6554	4822 130 30621	1N4148	7413	4822 130 40937	TBC548B
6555	4822 130 30621	1N4148	7420	4822 130 44197	TBC558B
6556	4822 130 30621	1N4148	7421	4822 130 40937	TBC548B
6557	4822 130 30621	1N4148	7422	4822 130 40937	TBC548B
6558	4822 130 30621	1N4148	7435	4822 130 44196	TBC548C
6559	4822 130 30621	1N4148	7450	4822 130 44197	TBC558B
6560	4822 130 30621	1N4148	7451	4822 130 40937	TBC548B
6561	4822 130 30621	1N4148	7452	4822 130 44246	TBC549C
6562	4822 130 30621	1N4148	7453	4822 130 44246	TBC549C
6563	4822 130 30621	1N4148	7456	4822 130 40937	TBC548B
6564	4822 130 30621	1N4148	7460	4822 130 40937	TBC548B
6565	4822 130 30621	1N4148	7461	4822 130 40937	TBC548B
6566	4822 130 30621	1N4148	7462	4822 130 44197	TBC558B
6690	4822 130 32472	TLG124A	7470	4822 130 41327	BC327-40
6701	4822 130 30621	1N4148	7471	4822 130 44197	TBC558B
6702	4822 130 30621	1N4148	7501	4822 130 44246	TBC549C
6705	4822 130 30621	1N4148	7502	4822 130 44246	TBC549C
6706	4822 130 30621	1N4148	7510	4822 209 71337	TC9153P
6707	4822 130 30621	1N4148	7511	4822 209 83274	NJM4560D
6710	4822 130 30621	1N4148	7512	4822 130 40937	TBC548B
6712	4822 130 30621	1N4148	7513	4822 130 40937	TBC548B
			7514	4822 130 44197	TBC558B
			7515	4822 130 40937	TBC548B
7101	4822 130 60163	2SC1047	7516	4822 130 40937	TBC548B
7102	4822 130 60093	2SA838B	7517	4822 130 40937	TBC548B
7103	4822 209 72744	CXA1240P	7518	4822 130 40937	TBC548B
7104	4822 130 44154	BF199	7550	4822 209 83274	NJM4560D
7105	4822 130 44196	TBC548C	7602	4822 209 83274	NJM4560D
7106	4822 209 71321	AN7411	7694	4822 130 40937	TBC548B
7107	4822 130 60163	2SC1047	7695	4822 130 40937	TBC548B
7108	5322 130 44779	BC338-40	7696	4822 130 40937	TBC548B
7109	5322 130 44779	BC338-40	7697	4822 130 40937	TBC548B
7110	4822 209 71331	LM7000	7698	4822 130 44196	TBC548C
7111	5322 130 42755	BC847C	7699	4822 209 10248	HEF4013BP
7112	4822 130 60163	2SC1047	7701	4822 209 72491	KA2224
7113	5322 130 42755	BC847C	7702	4822 209 70288	μPC1313HA
7114	5322 130 42755	BC847C	7703	4822 130 40937	BC548B
7115	4822 130 44196	BC548C	7704	4822 130 40937	BC548B
7253	4822 209 73356 Δ	AN7161N(FP)	7706	5322 130 44779	BC338-40
7254	4822 209 73356 Δ	AN7161N(FP)	7707	5322 130 44779	BC338-40
7256	4822 130 44196	TBC548C	7708	4822 130 44197	BC558B
7301	4822 209 80591 Δ	LM317T	7709	4822 130 40937	BC548B
7303	4822 209 80591 Δ	LM317T	7712	4822 130 44196	TBC548C
7304	4822 130 40937	TBC548B	7713	4822 130 44197	BC558B
7305	4822 130 40937	TBC548B	7753	4822 130 40937	BC548B
7400	4822 209 62996	TMP47C221AF-4257	7756	5322 130 44779	BC338-40
7401	5322 130 44779	BC338-40	7757	5322 130 44779	BC338-40

Note : Only the mentioned parts are normal service parts



		
3164	4822 051 20008	0Ω 5% 0.1W
3170	4822 051 20008	0Ω 5% 0.1W
3173	4822 050 21002	1k 1% 0.6W
3251	4822 050 26802	6k8 1% 0.6W
3252	4822 050 26802	6k8 1% 0.6W
3255	4822 052 10228 Δ	2Ω2 5% 0.33W
3256	4822 052 10228 Δ	2Ω2 5% 0.33W
3257	4822 052 10228 Δ	2Ω2 5% 0.33W
3258	4822 052 10228 Δ	2Ω2 5% 0.33W
3265	4822 050 21202	1k2 1% 0.6W
3266	4822 050 21202	1k2 1% 0.6W
3271	4822 050 22701	270Ω 1% 0.6W
3272	4822 050 22701 Δ	270Ω 1% 0.6W
3273	4822 050 22208	2Ω2 1% 0.6W
3274	4822 050 22208	2Ω2 1% 0.6W
3290	4822 050 21001	100Ω 1% 0.6W
3295	4822 052 10129 Δ	12Ω 5% 0.33W
3296	4822 050 22202	2k2 1% 0.6W
3301	4822 050 24709	47Ω 1% 0.6W
3302	4822 050 23901	390Ω 1% 0.6W
3303	4822 050 21002	1k 1% 0.6W
3304	4822 050 21002	1k 1% 0.6W
3305	4822 050 21003	10k 1% 0.6W
3306	4822 050 26802	6k8 1% 0.6W
3307	4822 050 28202	8k2 1% 0.6W
3308	4822 050 21004	100k 1% 0.6W
3309	4822 050 21004	100k 1% 0.6W
3315	4822 050 22201	220Ω 1% 0.6W
3320	4822 050 24703	47k 1% 0.6W
3401	4822 052 10108 Δ	1Ω 5% 0.33W
3402	4822 050 21002	1k 1% 0.6W
3403	4822 050 24709	47Ω 1% 0.6W
3404	4822 050 23301	330Ω 1% 0.6W
3405	4822 050 23903	39k 1% 0.6W
3406	4822 050 25602	5k6 1% 0.6W
3407	4822 050 23903	39k 1% 0.6W
3408	4822 050 24702	4k7 1% 0.6W
3409	4822 050 28203	82k 1% 0.6W
3410	4822 050 28203	82k 1% 0.6W
3411	4822 050 21003	10k 1% 0.6W
3412	4822 050 21004	100k 1% 0.6W
3414	4822 050 21004	100k 1% 0.6W
3416	4822 050 21003	10k 1% 0.6W
3418	4822 050 22202	2k2 1% 0.6W
3419	4822 050 21003	10k 1% 0.6W
3420	4822 050 21004	100k 1% 0.6W
3421	4822 050 22202	2k2 1% 0.6W
3422	4822 050 24703	47k 1% 0.6W
3423	4822 050 24703	47k 1% 0.6W
3424	4822 050 24703	47k 1% 0.6W
3425	4822 050 21803	18k 1% 0.6W
3426	4822 050 24702	4k7 1% 0.6W
3427	4822 050 21002	1k 1% 0.6W
3428	4822 050 21002	1k 1% 0.6W
3429	4822 050 21004	100k 1% 0.6W




		
3430	4822 050 24702	4k7 1% 0.6W
3431	4822 050 24702	4k7 1% 0.6W
3432	4822 050 24702	4k7 1% 0.6W
3433	4822 050 24702	4k7 1% 0.6W
3434	4822 050 24703	47k 1% 0.6W
3437	4822 050 21002	1k 1% 0.6W
3438	4822 050 21004	100k 1% 0.6W
3439	4822 050 21002	1k 1% 0.6W
3440	4822 050 24702	4k7 1% 0.6W
3441	4822 050 24702	4k7 1% 0.6W
3442	4822 050 21002	1k 1% 0.6W
3444	4822 050 25602	5k6 1% 0.6W
3445	4822 050 24703	47k 1% 0.6W
3446	4822 050 21503	15k 1% 0.6W
3447	4822 050 24702	4k7 1% 0.6W
3448	4822 050 23301	330Ω 1% 0.6W
3451	4822 050 25601	560Ω 1% 0.6W
3452	4822 050 23901	390Ω 1% 0.6W
3453	4822 050 23303	33k 1% 0.6W
3454	4822 050 21003	10k 1% 0.6W
3456	4822 050 24703	47k 1% 0.6W
3457	4822 050 24703	47k 1% 0.6W
3458	4822 050 21803	18k 1% 0.6W
3459	4822 050 21003	10k 1% 0.6W
3460	4822 050 21004	100k 1% 0.6W
3461	4822 050 24702	4k7 1% 0.6W
3462	4822 050 21003	10k 1% 0.6W
3463	4822 050 21004	100k 1% 0.6W
3467	4822 050 24701	470Ω 1% 0.6W
3470	4822 050 24702	4k7 1% 0.6W
3471	4822 050 21002	1k 1% 0.6W
3489	4822 050 21002	1k 1% 0.6W
3490	4822 050 21002	1k 1% 0.6W
3491	4822 050 21003	10k 1% 0.6W
3492	4822 050 21003	10k 1% 0.6W
3493	4822 050 25602	5k6 1% 0.6W
3494	4822 050 25602	5k6 1% 0.6W
3495	4822 050 24702	4k7 1% 0.6W
3501	4822 050 24703	47k 1% 0.6W
3502	4822 050 24703	47k 1% 0.6W
3503	4822 050 22203	22k 1% 0.6W
3504	4822 050 22203	22k 1% 0.6W
3505	4822 050 21503	15k 1% 0.6W
3506	4822 050 21503	15k 1% 0.6W
3507	4822 105 11051	POTM 100k X 2
3509	4822 105 11051	POTM 100k X 2
3511	4822 105 11051	POTM 100k X 2
3513	4822 050 24703	47k 1% 0.6W
3514	4822 050 24703	47k 1% 0.6W
3515	4822 050 21803	18k 1% 0.6W
3516	4822 050 21803	18k 1% 0.6W
3517	4822 050 22203	22k 1% 0.6W
3518	4822 050 22203	22k 1% 0.6W
3519	4822 050 21503	15k 1% 0.6W
3520	4822 050 21503	15k 1% 0.6W

		
3521	4822 053 20155	1M5 5% 0.25W
3522	4822 053 20155	1M5 5% 0.25W
3523	4822 050 23302	3k3 1% 0.6W
3524	4822 050 23302	3k3 1% 0.6W
3525	4822 052 10479 Δ	47Ω 5% 0.33W
3526	4822 050 22203	22k 1% 0.6W
3527	4822 050 22203	22k 1% 0.6W
3528	4822 050 23303	33k 1% 0.6W
3529	4822 050 23303	33k 1% 0.6W
3530	4822 050 21502	1k5 1% 0.6W
3531	4822 050 21502	1k5 1% 0.6W
3532	4822 050 25602	5k6 1% 0.6W
3533	4822 050 25602	5k6 1% 0.6W
3534	4822 050 21002	1k 1% 0.6W
3535	4822 050 21002	1k 1% 0.6W
3536	4822 050 21504	150k 1% 0.6W
3537	4822 050 21504	150k 1% 0.6W
3538	4822 050 21004	100k 1% 0.6W
3539	4822 050 23303	33k 1% 0.6W
3540	4822 050 21004	100k 1% 0.6W
3541	4822 050 21003	10k 1% 0.6W
3542	4822 050 22202	2k2 1% 0.6W
3544	4822 052 10479 Δ	47Ω 5% 0.33W
3545	4822 050 21003	10k 1% 0.6W
3546	4822 050 21003	10k 1% 0.6W
3547	4822 050 21003	10k 1% 0.6W
3548	4822 050 22203	22k 1% 0.6W
3549	4822 050 21003	10k 1% 0.6W
3551	4822 050 28203	82k 1% 0.6W
3552	4822 050 28203	82k 1% 0.6W
3553	4822 050 21504	150k 1% 0.6W
3554	4822 050 21504	150k 1% 0.6W
3555	4822 050 26802	6k8 1% 0.6W
3556	4822 050 26802	6k8 1% 0.6W
3557	4822 050 21204	120k 1% 0.6W
3558	4822 050 21204	120k 1% 0.6W
3559	4822 050 23303	33k 1% 0.6W
3560	4822 050 23303	33k 1% 0.6W
3561	4822 050 23303	33k 1% 0.6W
3562	4822 050 23303	33k 1% 0.6W
3563	4822 050 23303	33k 1% 0.6W
3564	4822 050 23303	33k 1% 0.6W
3565	4822 050 23303	33k 1% 0.6W
3566	4822 050 23303	33k 1% 0.6W
3567	4822 050 22203	22k 1% 0.6W
3568	4822 050 22203	22k 1% 0.6W
3569	4822 050 22202	2k2 1% 0.6W
3570	4822 050 22202	2k2 1% 0.6W
3571	4822 050 22203	22k 1% 0.6W
3572	4822 050 22203	22k 1% 0.6W
3573	4822 050 23903	39k 1% 0.6W
3574	4822 050 23903	39k 1% 0.6W
3575	4822 050 25601	560Ω 1% 0.6W
3576	4822 050 25601	560Ω 1% 0.6W
3577	4822 050 24701	470Ω 1% 0.6W

		
3578	4822 050 24701	470Ω 1% 0.6W
3581	4822 050 23303	33k 1% 0.6W
3582	4822 050 23303	33k 1% 0.6W
3583	4822 050 24703	47k 1% 0.6W
3584	4822 050 24703	47k 1% 0.6W
3585	4822 050 23901	390Ω 1% 0.6W
3586	4822 050 23901	390Ω 1% 0.6W
3597	4822 050 24701	470Ω 1% 0.6W
3599	4822 050 21001	100Ω 1% 0.6W
3600	4822 050 23304	330k 1% 0.6W
3601	4822 050 23304	330k 1% 0.6W
3602	4822 050 25603	56k 1% 0.6W
3603	4822 050 25603	56k 1% 0.6W
3604	4822 050 25601	560Ω 1% 0.6W
3605	4822 050 25601	560Ω 1% 0.6W
3606	4822 050 23304	330k 1% 0.6W
3607	4822 050 23304	330k 1% 0.6W
3608	4822 050 22703	27k 1% 0.6W
3609	4822 050 22703	27k 1% 0.6W
3610	4822 050 23901	390Ω 1% 0.6W
3611	4822 050 23901	390Ω 1% 0.6W
3612	4822 050 24701	470Ω 1% 0.6W
3613	4822 050 24701	470Ω 1% 0.6W
3622	4822 050 21002	1k 1% 0.6W
3623	4822 050 21002	1k 1% 0.6W
3624	4822 050 24709	47Ω 1% 0.6W
3689	4822 050 22203	22k 1% 0.6W
3691	4822 050 23901	390Ω 1% 0.6W
3692	4822 050 28203	82k 1% 0.6W
3693	4822 050 21004	100k 1% 0.6W
3694	4822 050 21803	18k 1% 0.6W
3695	4822 050 21004	100k 1% 0.6W
3696	4822 050 26803	68k 1% 0.6W
3697	4822 050 21004	100k 1% 0.6W
3698	4822 050 21004	100k 1% 0.6W
3701	4822 116 52224	470Ω 5% 0.5W
3702	4822 116 52224	470Ω 5% 0.5W
3703	4822 116 52224	470Ω 5% 0.5W
3704	4822 050 22204	220k 1% 0.6W
3705	4822 050 22709	27Ω 1% 0.6W
3706	4822 051 10101	100Ω 2% 0.25W
3709	4822 051 10101	100Ω 2% 0.25W
3710	4822 050 15602	5k6 1% 0.4W
3711	4822 116 52234	100k 5% 0.5W
3712	4822 050 21803	18k 1% 0.6W
3713	4822 050 26802	6k8 1% 0.6W
3716	4822 050 21002	1k 1% 0.6W
3717	4822 050 22202	2k2 1% 0.6W
3718	4822 116 52224	470Ω 5% 0.5W
3719	4822 050 22203	22k 1% 0.6W
3720	4822 116 52224	470Ω 5% 0.5W
3721	4822 116 52224	470Ω 5% 0.5W
3722	4822 116 52224	470Ω 5% 0.5W
3723	4822 116 52224	470Ω 5% 0.5W
3724	4822 050 22204	220k 1% 0.6W



					
2373	4822 124 41397	47μF 20% 25V	2538	4822 124 23175	4.7μF 20% 63V
2374	4822 124 41397	47μF 20% 25V	2539	4822 126 11313	22nF 25V
2375	4822 126 11097	15nF 20%	2540	4822 124 40248	10μF 20% 63V
2376	4822 126 11097	15nF 20%	2542	4822 124 23175	4.7μF 20% 63V
2401	5322 124 41431	22μF 20% 35V	2544	4822 124 41973	100μF 20% 16V
2402	4822 124 40248	10μF 20% 63V	2545	4822 124 40248	10μF 20% 63V
2403	4822 124 42216	100μF 20% 10V	2550	4822 126 11592	1nF 10% 50V
2405	4822 124 23175	4.7μF 20% 63V	2551	4822 124 41398	1μF 20% 63V
2408	4822 124 40177	47μF 20% 10V	2551	4822 122 10158	1nF 10% 50V
2411	4822 121 42408	220nF 5% 63V	2552	4822 124 41398	1μF 20% 63V
2412	4822 122 10177	10nF 20% 25V	2552	4822 122 10158	1nF 10% 50V
2413	4822 124 40244	2.2μF 20% 63V	2553	4822 124 41398	1μF 20% 63V
2415	4822 122 10166	22nF 30% 16V	2554	4822 124 41398	1μF 20% 63V
2417	5322 126 10181	100nF 25V	2555	4822 124 41398	1μF 20% 63V
2418	5322 121 42498	680nF 5% 63V	2556	4822 124 41398	1μF 20% 63V
2420	4822 122 10166	22nF 30% 16V	2557	4822 124 41398	1μF 20% 63V
2421	4822 126 11313	22nF 25V	2557	4822 122 33996	39pF 5%
2422	4822 122 10177	10nF 20% 25V	2558	4822 124 41398	1μF 20% 63V
2423	4822 126 11593	10nF 10% 50V	2558	4822 122 33996	39pF 5%
2430	4822 126 11316	47nF 50V	2559	4822 124 40248	10μF 20% 63V
2431	4822 126 11316	47nF 50V	2560	4822 124 40248	10μF 20% 63V
2432	4822 126 11316	47nF 50V	2561	4822 124 23175	4.7μF 20% 63V
2433	4822 126 11316	47nF 50V	2562	4822 124 23175	4.7μF 20% 63V
2460	4822 124 41584	100μF 20% 10V	2563	4822 122 10183	100pF 5% 50V
2501	4822 121 43945	8.2nF 20%	2564	4822 122 10183	100pF 5% 50V
2502	4822 121 43945	8.2nF 20%	2565	4822 122 31381	680pF 10% 50V
2503	4822 122 10165	3.3nF 10% 50V	2566	4822 122 31381	680pF 10% 50V
2504	4822 122 10165	3.3nF 10% 50V	2571	4822 126 11313	22nF 25V
2505	4822 122 33519	470pF 10% 50V	2572	4822 126 11313	22nF 25V
2506	4822 122 33519	470pF 10% 50V	2573	4822 126 11313	22nF 25V
2507	4822 121 43944	5.6nF 20%	2574	4822 122 10166	22nF 30% 16V
2508	4822 121 43944	5.6nF 20%	2581	4822 122 10183	100pF 5% 50V
2509	4822 122 31464	1.5nF 10%	2582	4822 122 10183	100pF 5% 50V
2510	4822 122 31464	1.5nF 10%	2595	4822 122 10166	22nF 30% 16V
2511	5322 126 10181	100nF 25V	2596	4822 124 40184	1000μF 20% 10V
2512	5322 126 10181	100nF 25V	2597	4822 124 42218	470μF 20% 10V
2513	4822 122 33849	150pF 10%Y5P 50V	2598	4822 122 10166	22nF 30% 16V
2514	4822 122 33849	150pF 10%Y5P 50V	2599	4822 124 41584	100μF 20% 10V
2515	4822 124 41398	1μF 20% 63V	2600	4822 122 10183	100pF 5% 50V
2516	4822 124 41398	1μF 20% 63V	2601	4822 122 10183	100pF 5% 50V
2517	4822 124 41398	1μF 20% 63V	2602	4822 124 41398	1μF 20% 63V
2518	4822 124 41398	1μF 20% 63V	2603	4822 124 41398	1μF 20% 63V
2526	4822 124 41398	1μF 20% 63V	2604	4822 124 40248	10μF 20% 63V
2527	4822 124 41398	1μF 20% 63V	2605	4822 124 40248	10μF 20% 63V
2528	4822 124 41398	1μF 20% 63V	2606	4822 122 10177	10nF 20% 25V
2529	4822 124 41398	1μF 20% 63V	2607	4822 122 10177	10nF 20% 25V
2530	4822 121 43144	22nF 10% 50V	2608	4822 126 11309	2.7nF 10%Y5F 50V
2531	4822 121 43144	22nF 10% 50V	2609	4822 126 11309	2.7nF 10%Y5F 50V
2532	4822 124 40244	2.2μF 20% 63V	2610	4822 122 10173	820pF 10% 50V
2533	4822 124 40244	2.2μF 20% 63V	2611	4822 122 10173	820pF 10% 50V
2534	4822 124 40244	2.2μF 20% 63V	2612	4822 126 10781	470pF 50V
2535	4822 124 40244	2.2μF 20% 63V	2613	4822 126 10781	470pF 50V
2536	4822 124 40177	47μF 20% 10V	2624	4822 122 10166	22nF 30% 16V
2537	4822 126 11313	22nF 25V	2625	4822 124 41584	100μF 20% 10V

					
2626	4822 124 40177	47μF 20% 10V	3103	4822 051 20472	4k7 5% 0.1W
2696	4822 122 10166	22nF 30% 16V	3104	4822 051 20102	1k 5% 0.1W
2697	4822 122 10166	22nF 30% 16V	3105	4822 050 23901	390Ω 1% 0.6W
2698	4822 124 41398	1μF 20% 63V	3106	4822 116 52224	470Ω 5% 0.5W
2699	4822 126 11313	22nF 25V	3107	4822 050 24702	4k7 1% 0.6W
2701	4822 122 10173	820pF 10% 50V	3108	4822 051 10122	1k2 2% 0.25W
2702	4822 122 10182	100pF 5% 50V	3109	4822 051 10101	100Ω 2% 0.25W
2703	4822 124 41584	100μF 20% 10V	3111	4822 050 24703	47k 1% 0.6W
2704	4822 126 11595	470P 10% 50V	3112	4822 051 20008	0Ω 5% 0.1W
2705	4822 126 11325	4.7nF 10% 50V	3113	4822 051 20689	68Ω 5% 0.1W
2706	4822 124 40433	47μF 20% 25V	3114	4822 100 20166	TRIM 10k 30% 0.1W
2708	4822 124 40435	10μF 20% 50V	3115	4822 051 20479	47Ω 5% 0.1W
2709	4822 121 41857	10nF 5% 250V	3116	4822 050 21001	100Ω 1% 0.6W
2711	4822 124 22633	22μF 20% 35V	3117	4822 051 20103	10k 5% 0.1W
2712	4822 126 11311	4.7nF 50V	3118	4822 051 20271	270Ω 5% 0.1W
2713	4822 124 40433	47μF 20% 25V	3120	4822 050 23903	39k 1% 0.6W
2720	4822 122 10174	1.5nF 10% 50V	3121	4822 051 20104	100k 5% 0.1W
2721	4822 122 33534	1.2nF 10% 50V	3122	4822 051 20272	2k7 5% 0.1W
2722	4822 124 22466	1μF 20% 50V	3124	4822 051 20008	0Ω 5% 0.1W
2723	4822 124 22633	22μF 20% 35V	3125	4822 050 24702	4k7 1% 0.6W
2724	4822 126 11595	470P 10% 50V	3126	4822 050 22202	2k2 1% 0.6W
2725	4822 124 40433	47μF 20% 25V	3127	4822 051 20472	4k7 5% 0.1W
2726	4822 124 40433	47μF 20% 25V	3128	4822 050 24702	4k7 1% 0.6W
2728	4822 124 40435	10μF 20% 50V	3129	4822 051 20104	100k 5% 0.1W
2730	4822 126 11325	4.7nF 10% 50V	3130	4822 051 20104	100k 5% 0.1W
2731	4822 121 41857	10nF 5% 250V	3131	4822 050 23301	330Ω 5% 0.125W
2732	4822 122 10158	1nF 10% 50V	3132	4822 050 26801	680Ω 1% 0.6W
2751	4822 122 10173	820pF 10% 50V	3133	4822 051 20223	22k 5% 0.1W
2753	4822 124 41584	100μF 20% 10V	3134	4822 050 24702	4k7 1% 0.6W
2754	4822 126 11595	470P 10% 50V	3135	4822 050 22201	220Ω 1% 0.6W
2758	4822 124 40435	10μF 20% 50V	3136	4822 051 20153	15k 5% 0.1W
2759	4822 121 41857	10nF 5% 250V	3137	4822 051 20562	5k6 5% 0.1W
2762	4822 126 11311	4.7nF 50V	3138	4822 051 20472	4k7 5% 0.1W
2770	4822 122 10174	1.5nF 10% 50V	3139	4822 050 24702	4k7 1% 0.6W
2771	4822 122 33534	1.2nF 10% 50V	3140	4822 051 20102 Δ	1k 5% 0.1W
2772	4822 124 22466	1μF 20% 50V	3141	4822 050 21003	10k 1% 0.6W
2773	4822 124 22633	22μF 20% 35V	3142	4822 050 21001	100Ω 1% 0.6W
2774	4822 126 11595	470P 10% 50V	3143	4822 050 22203	22k 1% 0.6W
2775	4822 124 40184	1000μF 20% 10V	3144	4822 051 20183	18k 5% 0.1W
2778	4822 124 40435	10μF 20% 50V	3145	4822 100 20166	TRIM 10k 30% 0.1W
2781	4822 121 41857	10nF 5% 250V	3146	4822 051 20472 Δ	4k7 5% 0.1W
2782	4822 122 10158	1nF 10% 50V	3147	4822 050 21801	180Ω 1% 0.6W
2783	4822 121 41935	12nF 10%	3148	4822 050 21003	10k 1% 0.6W
2784	4822 124 40242	1μF 20% 63V	3149	4822 050 21002	1k 1% 0.6W
2785	4822 121 51305	15nF 10% 50V	3150	4822 050 21002	1k 1% 0.6W
2786	4822 122 10183	100pF 5% 50V	3151	4822 050 21002	1k 1% 0.6W
2788	4822 124 40433	47μF 20% 25V	3153	4822 050 21002	1k 1% 0.6W
2789	4822 124 40433	47μF 20% 25V	3156	4822 051 20223	22k 5% 0.1W
2790	4822 124 40433	47μF 20% 25V	3157	4822 051 20008	0Ω 5% 0.1W
			3158	4822 051 20104	100k 5% 0.1W
3101	4822 051 20473	47k 5% 0.1W	3160	4822 051 20008	0Ω 5% 0.1W
3102	4822 051 20333	33k 5% 0.1W	3161	4822 051 20473	47k 5% 0.1W
			3162	4822 051 20479	47Ω 5% 0.1W
			3163	4822 051 20562	5k6 5% 0.1W

401 4822 423 90187  
402 4822 423 51109  
403 4822 450 61524  
404 4822 450 61864  
406 4822 462 41909  
  
407 4822 492 52128  
408 4822 410 61828  
409 4822 443 62936  
411 4822 443 63598  
412 4822 443 63597  
  
413 4822 450 61516  
414 4822 410 61827  
416 4822 256 91477  
417 4822 466 70666  
418 4822 413 51406  
  
419 4822 413 41709  
421 4822 410 61837  
422 4822 466 70678  
424 4822 492 63051  
425 4822 255 41035  
426 4822 529 10278  
  
427 4822 492 42595  
428 4822 492 70426  
429 4822 403 30772  
430 4822 404 21073  
431 4822 466 92641  
  
432 4822 462 40683  
433 4822 410 60611  
434 4822 410 60625  
436 4822 462 71645  
437 4822 460 10589  
  
438 4822 466 92642  
439 4822 417 10631  
440 4822 417 10631  
441 4822 466 92643  
442 4822 404 21216  
  
443 4822 462 41535  
IFU 4822 736 21383

MISCELLANEOUS

1100 4822 267 31128 AERIAL SOCKET 75Ω  
1200 4822 267 31176 SPEAKER SOCKET  
1258 4822 267 30968 HEADPHONE SOCKET  
1260 4822 071 55002 Δ FUSE T5A 250V  
1263 4822 276 12887 POWER SWITCH  
1401 4822 276 12465 TACT SWITCH  
1402 4822 276 12465 TACT SWITCH  
1403 4822 276 12465 TACT SWITCH  
1404 4822 276 12465 TACT SWITCH  
1405 4822 276 12465 TACT SWITCH  
1406 4822 276 12465 TACT SWITCH  
1407 4822 276 12465 TACT SWITCH  
1408 4822 276 12465 TACT SWITCH  
1409 4822 276 12465 TACT SWITCH  
1410 4822 276 12465 TACT SWITCH  
1411 4822 276 12465 TACT SWITCH  
1412 4822 276 12465 TACT SWITCH  
1420 4822 130 90954 LCD DISPLAY  
1421 4822 134 40965 LAMP 12V 150MA  
1422 4822 267 31051 RC SOCKET  
1510 4822 276 12465 TACT SWITCH  
1511 4822 276 12465 TACT SWITCH  
1554 4822 267 30631 CD/TV SOCKET  
1690 4822 276 12465 TACT SWITCH  
1707 4822 277 20594 RECORD SWITCH  
4822 218 10448 REMOTE CONTROL  
4822 445 10298 SPEAKER BOX

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2100 4822 122 31555 120pF 5%  
2103 4822 125 60102 TRIM 5.2-30pF 100V  
2104 5322 122 32658 22pF 5% 50V  
2105 5322 122 32531 100pF 5% 50V  
2106 4822 122 31727 470pF 5% 63V  
2107 4822 122 31727 470pF 5% 63V  
2108 4822 122 31727 470pF 5% 63V  
2109 4822 125 60102 TRIM 5.2-30pF 100V  
2111 4822 125 60102 TRIM 5.2-30pF 100V  
2112 4822 122 31727 470pF 5% 63V  
2113 4822 122 31727 470pF 5% 63V  
2114 4822 122 31974 820pF 10% 63V  
2115 5322 122 33869 15pF 5% 63V  
2116 5322 122 32658 22pF 5% 50V  
2117 4822 122 32139 12pF 5% 63V  
2118 4822 122 31971 10pF 10% 50V  
2119 4822 124 40181 220μF 20% 10V  
2120 5322 122 32654 22nF 10% 63V  
2123 4822 122 31555 120pF 5%  
2124 4822 122 31727 470pF 5% 63V  
2125 5322 122 33538 150pF 5% 63V  
2126 5322 122 33538 150pF 5% 63V  
2127 5322 122 32654 22nF 10% 63V  
2128 5322 122 32661 56pF 5% 50V

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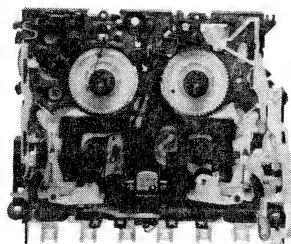
2129 5322 122 32654 22nF 10% 63V  
2130 4822 124 41584 100μF 20% 10V  
2131 4822 124 40244 2.2μF 20% 63V  
2132 5322 122 34123 1nF 10% 50V  
2133 4822 122 32504 15pF 5% 50V  
2134 5322 121 50999 470pF 1% 400V  
2135 4822 121 43253 360pF 1% 400V  
2136 4822 126 10388 5.6pF 50V  
2137 4822 122 10436 6.8pF 10% 50V  
2138 4822 122 32482 22pF 5% 63V  
2139 4822 122 10166 22nF 30% 16V  
2140 4822 122 32927 220nF  
2141 4822 122 31385 22pF 50V  
2142 5322 122 32452 47pF 5% 50V  
2143 5322 122 32452 47pF 5% 50V  
2144 4822 124 40181 220μF 20% 10V  
2146 4822 122 32096 4.7pF 10% 50V  
2147 4822 122 31727 470pF 5% 63V  
2148 4822 122 31727 470pF 5% 63V  
2149 5322 122 33537 1.2pF 5% 63V  
2150 4822 121 42408 220nF 5% 63V  
2151 4822 125 60101 TRIM 3-11pF 100V  
2152 4822 121 51288 100pF 630V  
2153 4822 125 60102 TRIM 5.2-30pF 100V  
2155 4822 124 41631 1.5μF 50V  
2156 4822 122 33339 4.7nF 10% 50V 0805  
2157 4822 122 33339 4.7nF 10% 50V 0805  
2158 4822 124 40196 220μF 20% 16V  
2159 5322 122 32654 22nF 10% 63V  
2160 4822 122 31727 470pF 5% 63V  
2161 4822 124 40246 4.7μF 20% 63V  
2162 4822 122 32142 270pF 5% 63V  
2164 4822 126 10333 560pF 10% 63V  
2165 4822 124 41398 1μF 20% 63V  
2166 5322 122 32654 22nF 10% 63V  
2167 4822 124 41973 100μF 20% 16V  
2168 5322 121 50999 470pF 1% 400V  
2169 5322 122 32654 22nF 10% 63V  
2170 4822 124 40239 0.47μF 20% 63V  
2171 4822 122 31727 470pF 5% 63V  
2172 4822 124 41987 0.22μF 63V  
2173 4822 124 40246 4.7μF 20% 63V  
2174 4822 122 33128 15nF 10% 63V  
2175 4822 122 33128 15nF 10% 63V  
2176 4822 124 41398 1μF 20% 63V  
2177 4822 124 41398 1μF 20% 63V  
2178 4822 126 10333 560pF 10% 63V  
2179 4822 122 31727 470pF 5% 63V  
2180 5322 122 32965 18pF 5%NPO 50V  
2181 5322 122 33869 15pF 5% 63V  
2182 4822 124 41398 1μF 20% 63V  
2183 4822 122 32927 220nF  
2184 4822 122 31727 470pF 5% 63V  
2185 4822 122 31974 820pF 10% 63V

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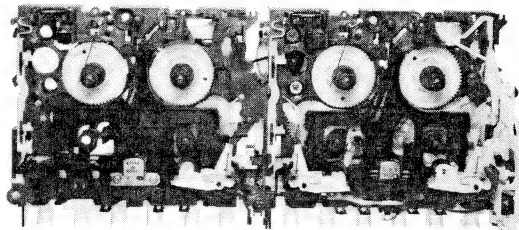
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2187 4822 122 31727 470pF 5% 63V  
2188 4822 122 31727 470pF 5% 63V  
2189 4822 122 31727 470pF 5% 63V  
2191 5322 126 10185 3.9pF 5% 50V  
2192 4822 122 32927 220nF  
2193 4822 122 31974 820pF 10% 63V  
2194 4822 122 33515 82pF 5% 63V  
2195 4822 122 32927 220nF  
2198 5322 122 33869 15pF 5% 63V  
2199 5322 122 33538 150pF 5% 63V  
2200 5322 122 31647 1nF 10% 63V  
2251 4822 124 41398 1μF 20% 63V  
2252 4822 124 41398 1μF 20% 63V  
2255 4822 121 43526 47nF 5% 100V  
2256 4822 121 43526 47nF 5% 100V  
2257 5322 124 41431 22μF 20% 35V  
2258 5322 124 41431 22μF 20% 35V  
2259 4822 124 41397 47μF 20% 25V  
2260 4822 124 41397 47μF 20% 25V  
2261 4822 121 43943 150nF 10% 50V  
2262 4822 121 43943 150nF 10% 50V  
2265 4822 124 41397 47μF 20% 25V  
2266 4822 124 41397 47μF 20% 25V  
2267 4822 121 43943 150nF 10% 50V  
2268 4822 121 43943 150nF 10% 50V  
2269 4822 124 41551 100μF 20% 25V  
2270 4822 124 41551 100μF 20% 25V  
2271 4822 122 31466 330pF 10% 50V  
2272 4822 122 31466 330pF 10% 50V  
2281 4822 122 10177 10nF 20% 25V  
2282 4822 122 10177 10nF 20% 25V  
2283 4822 122 31381 680pF 10% 50V  
2284 4822 122 31381 680pF 10% 50V  
2287 4822 122 32039 100nF 20% 25V  
2288 4822 122 32039 100nF 20% 25V  
2291 4822 122 10183 100pF 5% 50V  
2292 4822 122 10183 100pF 5% 50V  
2295 4822 122 10172 220pF 10% 50V  
2296 4822 126 11316 47nF 50V  
2298 4822 124 41551 100μF 20% 25V  
2300 4822 124 41973 100μF 20% 16V  
2301 4822 126 11316 47nF 50V  
2302 4822 126 11316 47nF 50V  
2303 4822 124 40196 220μF 20% 16V  
2304 4822 124 42218 470μF 20% 10V  
2305 4822 124 40248 10μF 20% 63V  
2306 4822 124 40248 10μF 20% 63V  
2309 4822 124 42119 4700μF 20% 25V  
2310 4822 121 41815 10nF 10% 100V  
2311 4822 121 41815 10nF 10% 100V  
2312 4822 121 41815 10nF 10% 100V  
2313 4822 121 41815 10nF 10% 100V  
2314 4822 121 42007 100nF 10% 100V

Note : Only the mentioned parts are normal service parts

Service  
Service  
Service



44 993 A11



44 990 A11

# Service Manual

## (GB) MAINTENANCE

It is recommended to clean the recorder after approx. 500 hours of operation.

To be cleaned with alcohol or spirit

- Erase head
- Recording/playback head
- Belts
- Capstan
- Pressure roller

## (F) ENTRETIEN

L'appareil devra être nettoyé après env. 500 heures de marche aux points les plus importants.

Nettoyer les éléments suivants à l'alcool ou à l'alcool à brûler:

- Tête effacement
- Tête enregistrement/reproduction
- Corroies
- Cabestan
- Galet presseur

## (NL) ONDERHOUD

Aanbevolen wordt het apparaat na ca. 500 bedrijfsuren schoon te maken

Schoonmaken met alcohol of spiritus:

- Wiskop
- Opneem-/weergeefkop
- Snaren
- Toonas
- Drukrol

## (D) WARTUNG

Es empfiehlt sich, das Gerät nach ca. 500 Betriebsstunden zu reinigen

Reinigen mit Alkohol oder Spiritus:

- Löschkopf
- Aufnahme/Wiedergabe-Kopf
- Antriebsriemen
- Tonachse
- Andruckrolle

## (I) MANUTENZIONE

E consigliabile pulire l'apparecchio dopo circa 500 ore di funzionamento ai punti principali.

Pulire con alcool

- Testina di cancellazione
- Testina di registrazione/riproduzione
- Cinghie
- Capstan
- Rullo preminastro



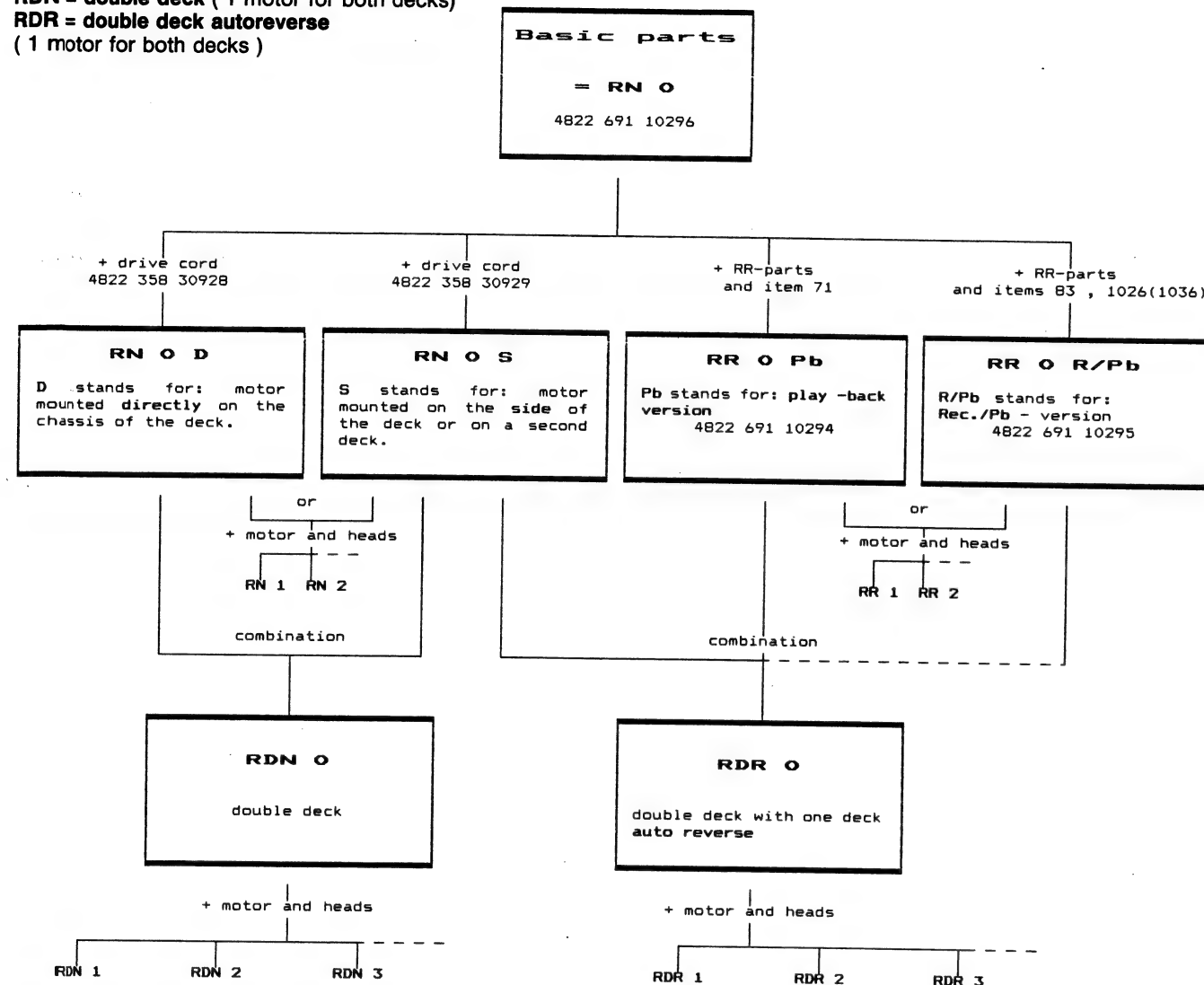
## RN / RR - system:

**RN = single deck**

**RR = single deck autoreverse -**

**RDN = double deck ( 1 motor for both decks)**

**RDR = double deck autoreverse**  
( 1 motor for both decks )



**GB**

Version 0 stands for deck without motor and heads. The various motors and heads give the various versions of tapetransports.

For codenumbers of motors and heads see separate manual of the corresponding tapetransport - version.

**F**

La version 0 correspond à une mécanique sans moteur ni têtes. Ce sont eu fait les différents moteurs et têtes qui sont de terminants pour le n° que porte une certaine version d'une mécanique.

Veuillez vous reporter à la Documentation traitant d'un version précise en matière de codes des moteurs et des têtes.

**I**

La versione 0 corrisponde ad un meccanismo privo di motore e testine. Infatti sono i motori e le testine che determinano il numero di codice di una certa versione di un meccanismo.

Per quanto concerne i codici per motori e testine, riferirsi alla Documentazione de Servizio della versione precisa di cui si tratta.

**NL**

Versie 0 staat voor een loopwerk zonder motor en magneetkopen. Der verschillende motoren en kopen bepalen der verschillende loopwerkversies.

De codenummers van de motoren en kopen zijn vermeld in de documentatie van de betreffende loopwerkversie.

**D**

Version 0 steht für : Laufwerk ohne Motor und Köpfe. Die verschiedenen Motoren und Köpfe bestimmen die verschiedenen Versionen der Laufwerke.

Die Codenummern der Motoren und Köpfe entnehmen Sie bitte der Dokumentation der betreffenden Version.

## SERVICE HINTS

### GB DISMANTLING

- **Removal of the pressure roller 40+41 (76+73)**  
Press locklug of headsupport aside and pull up lever 40 (73).
- **Removal of take up clutch 402**  
Press locklugs apart (e.g. with a small pair of tweezers) and pull up 402.
- **Head support**  
Cannot be removed because suppression spring 39 has to be assembled with a special tool which is not available in the workshops.

### ADJUSTMENTS and CHECKS

- **Check of pressure roller force against capstan:**  
The force of the pressure roller against the capstan should be  $240 \pm 30$  p.  
Measuring method:  
Pb mode with arbitrary cassette. Push the pressure roller with a spring pressure gauge (4822 395 80028) away from the capstan - see fig.2  
Read force just in that moment when tape travel stops. This pressure cannot be adjusted!
- **Take up clutch 402**  
The torque can be measured with friction test cassette 4822 395 30054 in play mode.  
Requirement:  
take up torque: 40 - 65 pcm  
( permissible variation 5 pcm )  
supplying reel: 2 - 4 pcm
- **FF/REW torque**  
Use friction testcassette 4822 395 30054  
FF- or Rew - mode  
Stop supplying reel by hand and read friction force - requirement: 55 - 90 pcm
- **Check of tape travel and capstan adjustment:**  
Use mirror cassette 4822 395 30058 in play mode.  
If the tape moves up or down at the capstan the capstan has to be adjusted perpendicularly with the flywheel bearing 5.  
The tape should travel straight and smoothly between the tapeguides and along the capstan. Small deviations in this pattern are permissible since their effect is negligible with a normal cassette.

**Attention:** In case of a reverse deck it is important to check tape travel in both directions after adjustment of the azimuth of the Rec./Pb - head ---- repeat if necessary.

For adjustment of the azimuth of the Rec./Pb - head and the tape speed refer to the concerning service manual of the set.

### NL SERVICE-HINTS

#### DEMONTAGE

- **Verwijderen van aandrukrol 40+41 (76+73)**  
Duw de vergrendellip van de kopsteun opzij en trek hefboom 40 (73) omhoog.
- **Verwijderen van opwikkelkoppeling 402**  
Duw de vergrendellippen opzij (bijvoorbeeld met een klein pincet) en trek de koppeling 402 omhoog.
- **Kopsteun**  
De kopsteun kan niet worden verwijderd omdat voor de montage van drukveer 39 een speciaal stuk gereedschap is vereist dat in een werkplaats niet voorhanden is.

## AFSTELLINGEN en CONTROLES

- **Controleren van de kracht van de aandrukrol tegen de kaapstander:**  
De druk van de aandrukrol tegen de kaapstander moet zijn  $240 \pm 30$ p.  
Meetmethode:  
Plaats een willekeurige cassette en druk de weergavetoets in. Trek de aandrukrol met een veerdrukmeter (4822 395 80028) weg van de kaapstander - zie afbeelding 2.  
Lees de waarde af precies op het moment dat de band stopt.  
Deze druk kan niet worden bijgesteld.
- **Opwikkelkoppeling 402**  
Het koppel kan worden gemeten met behulp van de frictietestcassette 4822 395 30054 in de weergavestand.  
Eis:  
opwikkelkoppel: 40 - 65 pcm  
( toegestane afwijking 5 pcm )  
afwikkelspoel: 2 - 4 pcm
- **koppel bij vooruit-/terugspoelen**  
Gebruik frictietestcassette 4822 395 30054 in de stand vooruitspoelen of terugspoelen.  
Houd de afwikkelspoel met de hand stil en lees de wrijvingskracht af - eis: 55 - 90 pcm.
- **Controleren van bandtransport en kaapstander-instelling:**  
Gebruik spiegelcassette 4822 395 30058 in de stand weergeven.  
Als de band bij de kaapstander op en neer gaat, moet de kaapstander verticaal worden bijgesteld met behulp van vliegwiellager 5.  
De band moet recht en soepel tussen de bandgeleiders langs de kaapstander lopen. Kleine afwijkingen in dit patroon zijn toelaatbaar omdat het effect ervan bij een normale cassette te verwaarlozen is.

**Aandacht:** In geval van een deck dat zowel kan opnemen als weergeven, is het belangrijk om na de azimuthinstelling van de opname-/weergavekop het bandtransport in beide richtingen te controleren. Indien nodig de instelling herhalen.  
Voor de azimuthinstelling van de weergave-/opnamekop en de bandsnelheid gelieve u de servicehandleiding van het betreffende apparaat te raadplegen.

### F CONSEILS D'ENTRETIEN

#### DEMONTAGE

**Démontage du galet presseur 40+41 (76+73)** Poussez sur le côté la patte de serrage du support de la tête de lecture et remontez le levier 40 (73).

#### Démontage de la griffe enrouleuse 402

Poussez à l'écart les pattes de serrage (par exemple avec des pincettes) et tirez la griffe 402 vers le haut.

#### Support de tête de lecture

Ne peut être retiré car le ressort de suppression 39 doit être monté au moyen d'un outil spécial non disponible dans les ateliers.

#### REGLAGES ET VERIFICATIONS

- **Vérification de la pression des galets presseurs contre le cabestan :**  
La pression exercée contre le cabestan doit être de  $240 \pm 30$  p.  
Méthode de mesure :  
En mode lecture avec une cassette arbitraire.

Eloignez du cabestan le galet presseur avec un manomètre à ressorts (4822 395 80028)– Fig.2 Lisez la pression au moment où la bande cesse de défiler. Cette pression ne peut pas être réglée !

#### Griffe enrouleuse 402

Le moment de torsion peut être mesuré à l'aide de la cassette de test à friction 4822 395 30054 en mode lecture.

Condition requise :

Moment de torsion de l'enrouleuse : 40–65 MIC

Variation autorisée : 5 MIC

Bobine débitrice : 2 – 4 MIC

#### Moment de torsion FF/REW (bobinage rapide/rebobinage)

Utilisez la cassette de test à friction 4822 395 30054 Mode bobinage rapide ou rebobinage.

Arrêtez la bobine débitrice à la main et lisez la force de friction: 55 – 90 MIC exigés

#### Contrôle du défilement de bande et du réglage du cabestan :

Utilisez la cassette à miroir 4822 395 30058 en mode lecture Si la bande se déplace vers le haut ou vers le bas du cabestan, vous devez ajuster le cabestan perpendiculairement avec le palier 5 du volant. La bande doit défiler en ligne droite et doucement entre les guides de bande. De faibles déviations de ce modèle sont autorisées car leur effet est négligeable avec une cassette conven- tionnelle.

#### Attention :

Dans le cas d'une platine cassette à inversion de défilement, il est très important de vérifier le défilement de bande dans les deux sens après le réglage de l'azimut de la tête de lecture/enregistrement. Répétez cette opération si nécessaire.

Pour le réglage de l'azimut de la tête de lecture/enregistrement et la vitesse de bande, reportez-vous au manuel d'entretien correspondant.

#### D AUSBAU

##### Andruckrolle 40+41 (76+73) entfernen:

Sperrzunge der Kopfträgerplatte zur Seite drücken und Hebel 40 (73) hochziehen.

##### Aufwickelkupplung 402 entfernen:

Rasthaken auseinanderdrücken (z.B. mit spitzer Pinzette) und gleichzeitig 402 hochziehen.

##### Kopfträgerplatte

Kann nicht ausgebaut werden, da Druckfeder 39 nur mit einem Spezialwerkzeug montiert werden kann.

#### EINSTELLUNGEN und KONTROLLEN

##### Kontrolle des Anpreßrollendruckes

Der Druck der Anpreßrolle 41 (76) an die Tonachse soll  $240 \pm 30$  p betragen.

Meßmethode: Stellung "play" mit beliebiger Kassette. Anpreßrolle mit einer Federwaage (4822 395 80028) – Ansetzpunkt siehe Fig. 2 – von der Tonachse wegdrücken. Lesen Sie die Kraft in dem Moment ab, wenn der Bandtransport stoppt. Dieser Druck kann nicht eingestellt werden!

##### Aufwickelrutschkupplung 402

Das Aufwickelmoment wird mit der Meßkassette 4822 395 30054 in Stellung "play" gemessen.

Anforderung:

Aufwickelmoment: 40 – 65 pcm

(zulässige Schwankung 5 pcm)

Gegenzug: 2 – 4 pcm

##### FF / REW – Moment

Stellung "FF" bzw. "REW"

Meßkassette 4822 395 30054 verwenden.

Jeweiligen Abwickelteller mit der Hand blockieren und Moment ablesen.

Anforderung: 50 – 90 pcm

##### Kontrolle des Bandlaufs und der

##### Tonwelleneinstellung:

Verwenden Sie Spiegelkassette 4822 395 30058 in Stellung "play".

Wenn sich das Band an der Tonwelle nach oben oder unten bewegt, muß die Tonwelle mit dem Exzenterlager 5 senkrecht gestellt werden.

Das Band soll gerade und genau fluchtend zwischen den Bandführungen der Köpfe und an der Tonwelle entlang laufen. Geringe Abweichungen in diesem Bild sind zulässig, da sie bei einer normalen Kassette nicht beeinträchtigend wirken.

**Achtung:** Bei Reverse – Laufwerken ist es wichtig, nach Einstellung des Azimuths den Bandlauf in beiden Richtungen zu kontrollieren – falls notwendig, wiederholen.

Für Einstellung des Azimuths des REC/Pb –Kopfes und der Bandgeschwindigkeit siehe Servicedokumentation des betreffenden Gerätes.

#### I CONSIGLI DI SERVIZIO ASSISTENZA

##### SMONTAGGIO

##### Smontaggio del rullino pressanastro 50+41 (76+73)

Spingere la linguetta di bloccaggio del supporto delle testine lateralmente e tirare in alto la leva 40 (73).

##### Smontaggio dell'accoppiamento di avvolgimento 402

Spingere le linguette di bloccaggio lateralmente (p.e. con una piccola pinza) e tirare in alto l'accoppiamento 402.

##### Supporto delle testine

Non è possibile smontare il supporto delle testine dato che lo smontaggio della molla di spinta 39 richiede un attrezzo speciale che non è disponibile in un'officina.

##### REGISTRAZIONI e CONTROLLI

##### Controllo della forza del rullino pressanastro contro il rullino trainonastro:

La forza del rullino pressanastro contro il rullino trainonastro deve essere di  $240 \pm 30$  p.

Metodo di misurazione:

Inserire una qualsiasi cassetta e premere il tasto di riproduzione. Allontanare il rullino pressanastro con un misuratore della pressione elicoidale (4822 395 80028) dal rullino trainonastro (fig. 2).

Leggere il valore proprio al momento che il nastro si arresta.

Non è possibile correggere questa pressione!

##### Accoppiamento di avvolgimento 402

La coppia può essere misurata con l'aiuto della cassetta di controllo della frizione 4822 395 30054 nel modo di riproduzione.

Valori prescritti:

Coppia di avvolgimento: 40–65 pcm.

(tolleranza: 5 pcm)

Bobina di svolgimento : 2–4 pcm.

##### Coppia di avvolgimento/riavvolgimento

Servirsi della cassetta di controllo della frizione 4822 395 30054 nel modo di avvolgimento o riavvolgimento.

Bloccare con la mano la rotazione della bobina di svolgimento e leggere la forza di frizione.

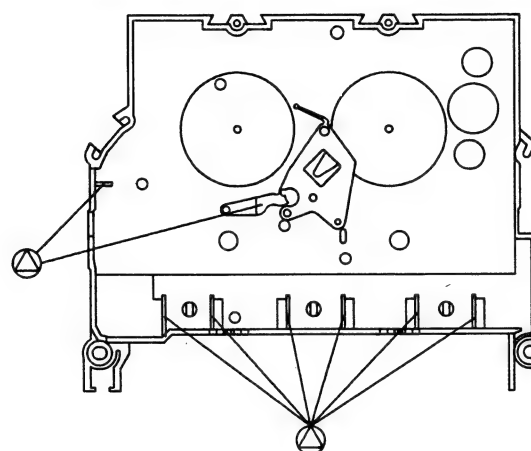
Valore prescritto: 55–90 pcm.

#### BASIC PARTS RN/RR-TAPE DECK

40	4822 402 10037	lever pinchroller right
41	4822 528 70646	pinch roller
401	4822 691 10296	RN 0 assy
402	4822 528 20676	take up clutch assy

Only those parts of which a service code number is stated are service parts.

#### BOTTOM VIEW OF CHASSIS WINDPLATE



⊗ LUBRICANT (MOBIL SHC 634) terh No. 48

⊙ GREASE (SHELL ALVANIA RS) terh No. 49

⊕ HANNOSIL-RELEASE AGENT M terh No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

##### Controllo della regolazione del trasporto del nastro e del rullino trainonastro

Servirsi della cassetta a specchio 4822 395 30058 nel modo di riproduzione.

Se il nastro si sposta in alto ed in basso dalla parte del rullino trainonastro, registrare il rullino trainonastro in senso verticale con l'aiuto del cuscinetto del volante 5.

Il nastro deve passare ben diritto ed agevolmente tra le guide del nastro lungo il rullino trainonastro. Sono consentite piccole deviazioni dato che il loro effetto è trascurabile con l'uso di una cassetta normale.

**Attenzione:** in caso l'apparecchio permetta sia la registrazione che la riproduzione, a registrazione avvenuta dell'azimut della testina di registrazione/riproduzione è importante controllare il trasporto del nastro nei due sensi. Se necessario, ripetere la registrazione.

Per la registrazione dell'azimut della testina di registrazione/riproduzione e la velocità di trasporto del nastro, consultare il manuale di servizio assistenza dell'apparecchio in questione.

RNO 401

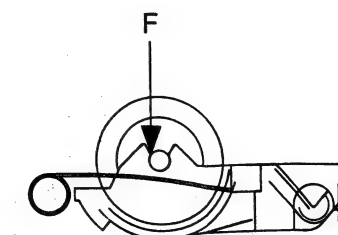
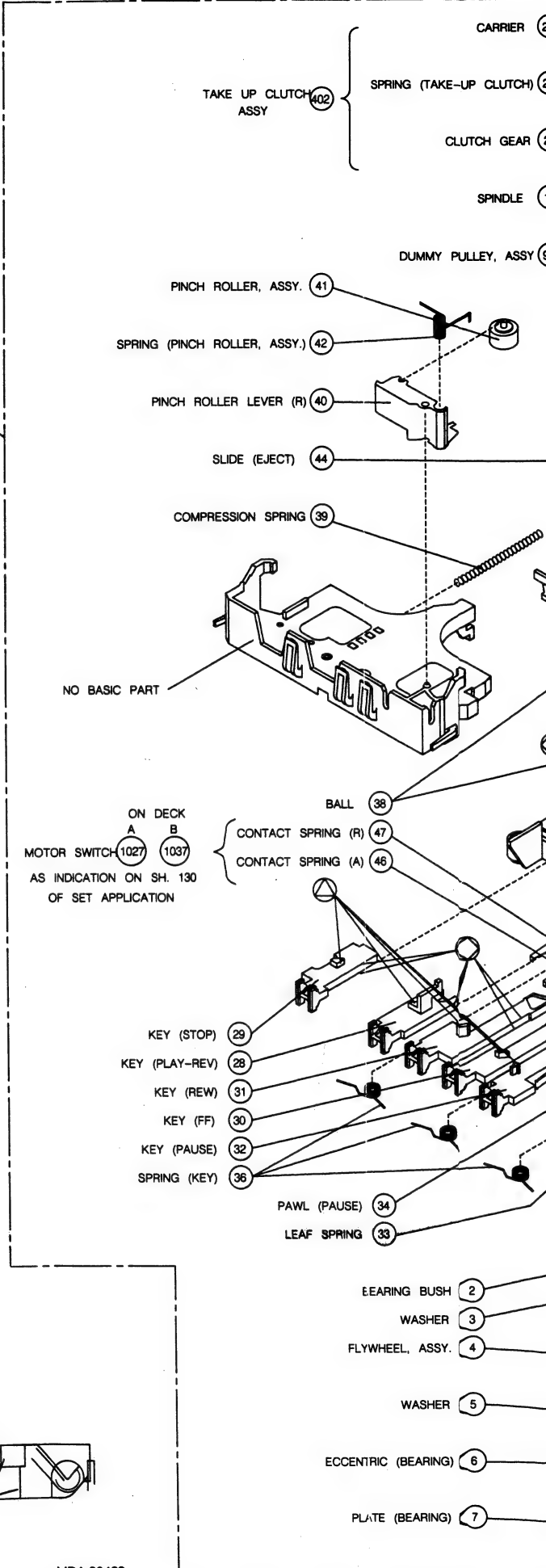


FIG 2

MDA.00429  
T07/646



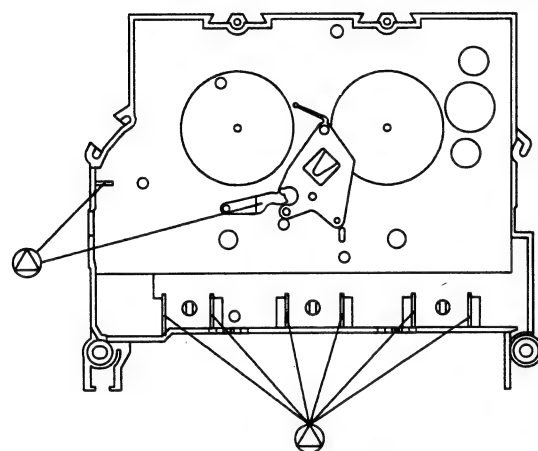
# **BASIC PARTS RN/RR-TAPE DECK**

40	4822 402 10037	lever pinchroller right
41	4822 528 70646	pinch roller
401	4822 691 10296	RN 0 assy
402	4822 528 20676	take up clutch assy

Only those parts of which a service code number is stated are service parts.

RN0 (401)

## **BOTTOM VIEW OF CHASSIS WINDPLATE**



- LUBRICANT (MOBIL SHC 634) term No. 48
- △ GREASE (SHELL ALVANIA RS) term No. 49
- ⊙ HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

## **- Controllo della regolazione del trasporto del nastro e del rullino trainonastro**

Servirsi della cassetta a specchio 4822 395 30058 nel modo di riproduzione.

Se il nastro si sposta in alto ed in basso dalla parte del rullino trainonastro, registrare il rullino trainonastro in senso verticale con l'aiuto del cuscinetto del volano 5.

Il nastro deve passare ben dritto ed agevolmente tra le guide del nastro lungo il rullino trainonastro. Sono consentite piccole deviazioni dato che il loro effetto è trascurabile con l'uso di una cassetta normale.

**Attenzione:** in caso l'apparecchio permetta sia la registrazione che la riproduzione, a registrazione avvenuta dell'azimut della testina di registrazione/riproduzione è importante controllare il trasporto del nastro nei due sensi. Se necessario, ripetere la registrazione.

Per la registrazione dell'azimut della testina di registrazione/riproduzione e la velocità di trasporto del nastro, consultare il manuale di servizio assistenza dell'apparecchio in questione.

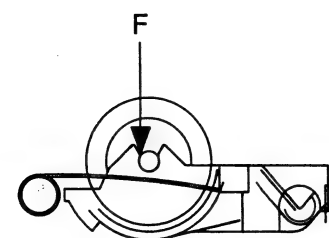
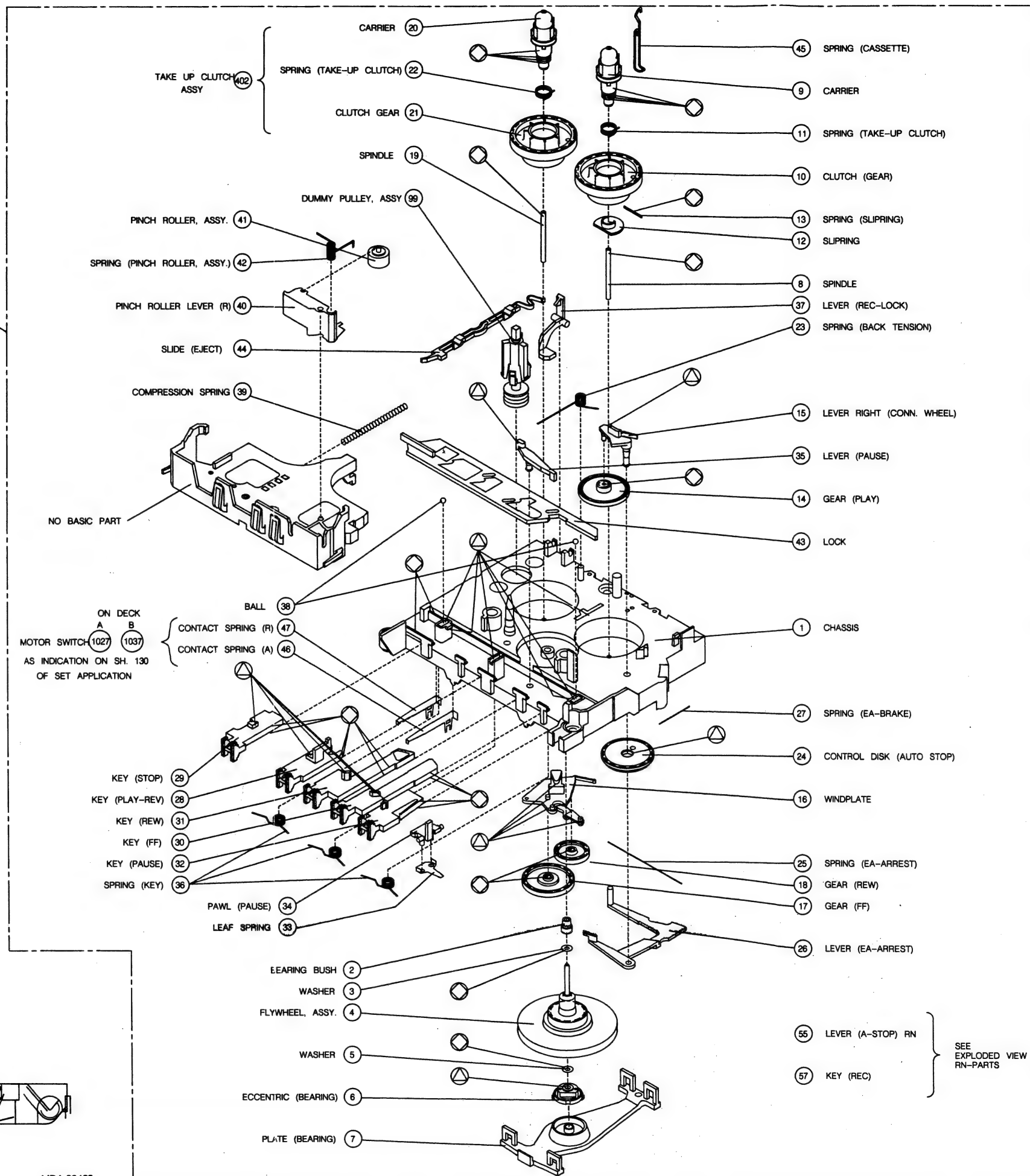


FIG 2

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T07/646

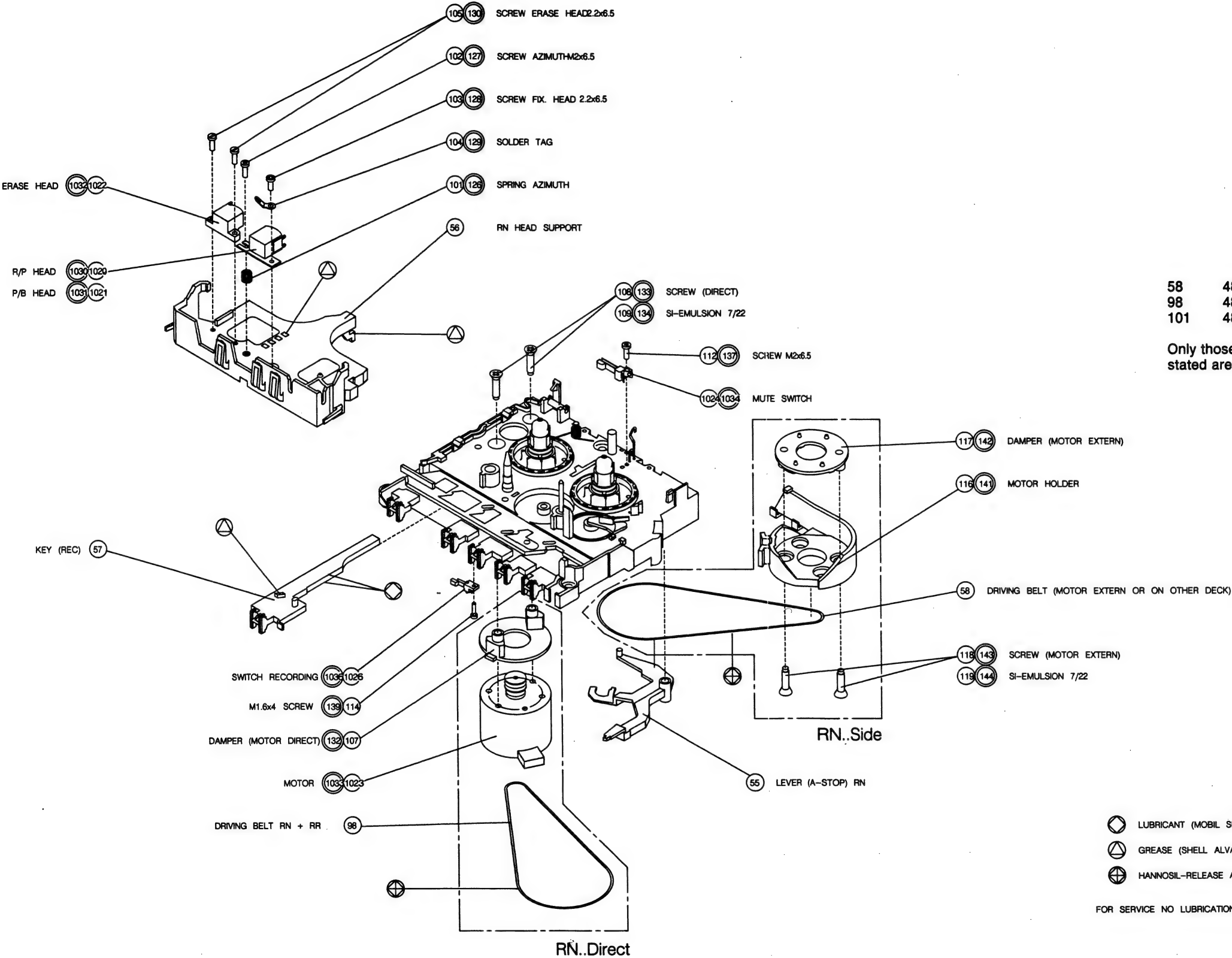




**RN-PARTS**  
(additional to basic parts)

ITEM 100 TO 124 ON "DECK A"

ITEM 125 TO 149 ON "DECK B"



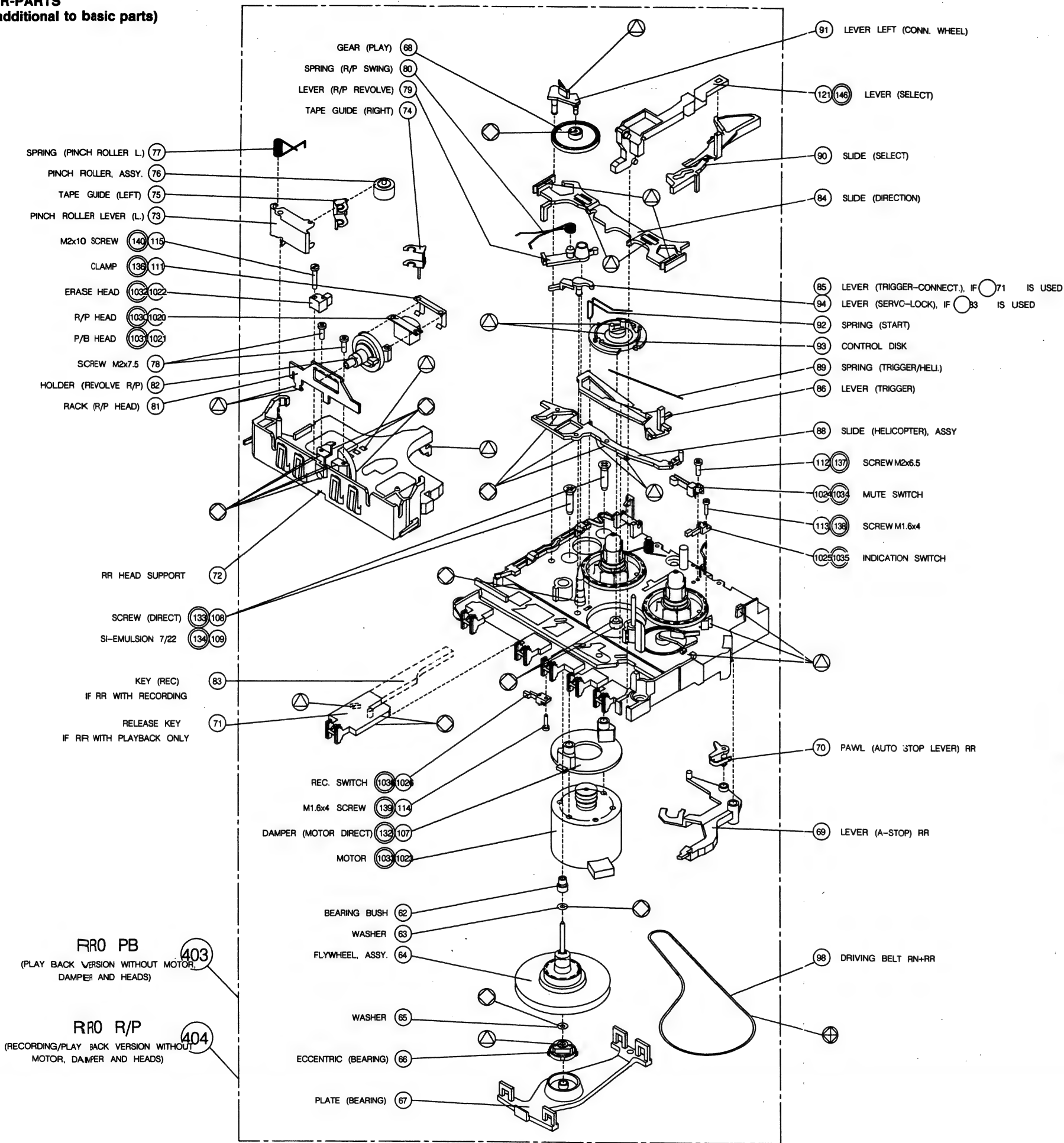
58	4822 358 30929	driving belt RN OS
98	4822 358 30928	driving belt RN OD
101	4822 492 51473	spring azimuth

Only those parts of which a service code number is stated are service parts.

- LUBRICANT (MOBIL SHC 634) term No. 48
- GREASE (SHELL ALVANIA RS) term No. 49
- HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

RR-PARTS  
(additional to basic parts)



ITEM 100 TO 124 ON "DECK A"  
ITEM 125 TO 149 ON "DECK B"

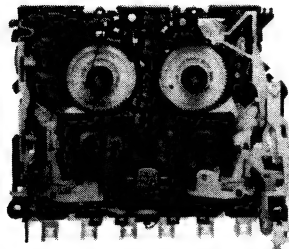
73	4822 402 10038	lever pinch roller left
74	4822 535 92992	tape guide right
75	4822 535 92993	tape guide left
76	4822 528 70646	pinch roller
111	4822 492 70393	spring head clamping
403	4822 691 10294	RR0 PB assy
404	4822 691 10295	RR0 R/P assy

Only those parts of which a service code number is stated are service parts.

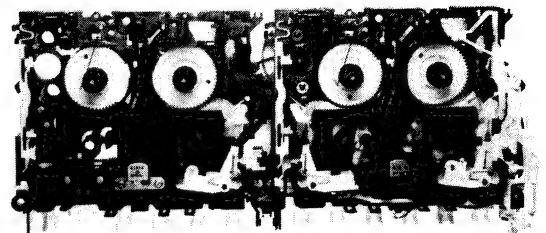
- LUBRICANT (MOBIL SHC 634) term No. 48
- GREASE (SHELL ALVANIA RS) term No. 49
- HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

Service  
Service  
Service



44 993 A11



44 990 A11

# Service Manual

## (GB) MAINTENANCE

It is recommended to clean the recorder after approx. 500 hours of operation.

To be cleaned with alcohol or spirit

- Erase head
- Recording/playback head
- Capstan
- Pressure roller

## (F) ENTRETIEN

L'appareil devra être nettoyé après env. 500 heures de marche aux points les plus importants.

Nettoyer les éléments suivants à l'alcool ou à l'alcool à brûler:

- Tête effacement
- Tête enregistrement/reproduction
- Cabestan
- Galet presseur

## (NL) ONDERHOUD

Aanbevolen wordt het apparaat na ca. 500 bedrijfsuren schoon te maken

Schoonmaken met alcohol of spiritus:

- Wiskop
- Opneem-/weergeefkop
- Toonas
- Drukrol

## (D) WARTUNG

Es empfiehlt sich, das Gerät nach ca. 500 Betriebsstunden zu reinigen

Reinigen mit Alkohol oder Spiritus:

- Löschkopf
- Aufnahme/Wiedergabe-Kopf
- Tonachse
- Andruckrolle

## (I) MANUTENZIONE

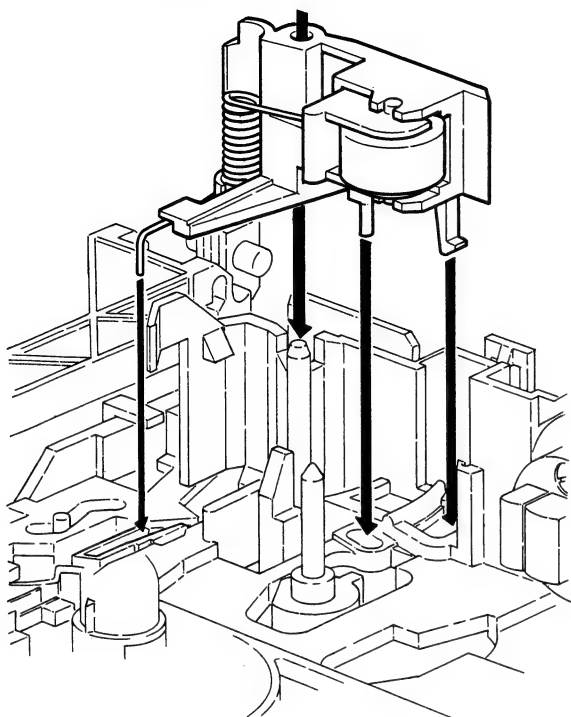
E consigliabile pulire l'apparecchio dopo circa 500 ore di funzionamento ai punti principali.

Pulire con alcool

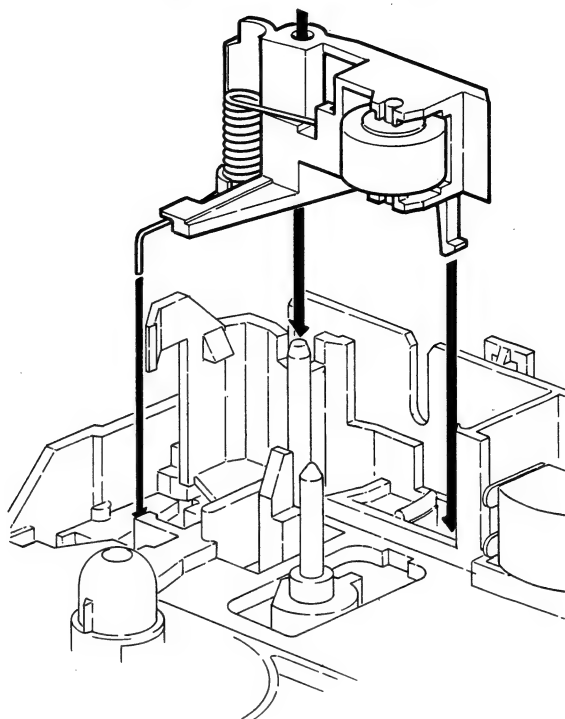
- Testina di cancellazione
- Testina di registrazione/riproduzione
- Capstan
- Rullo preminastro

## MOUNTING OF PINCH ROLLER

for autoreverse decks

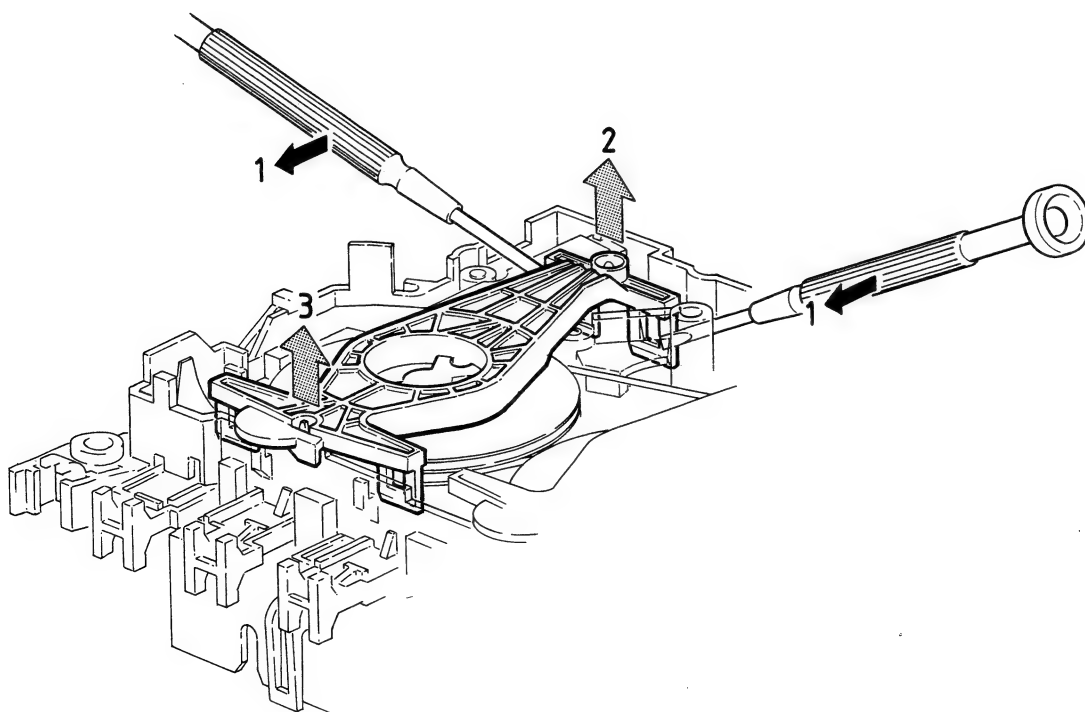


for single direction decks



## REMOVAL OF BEARING PLATE ⑦ ⑥⑦

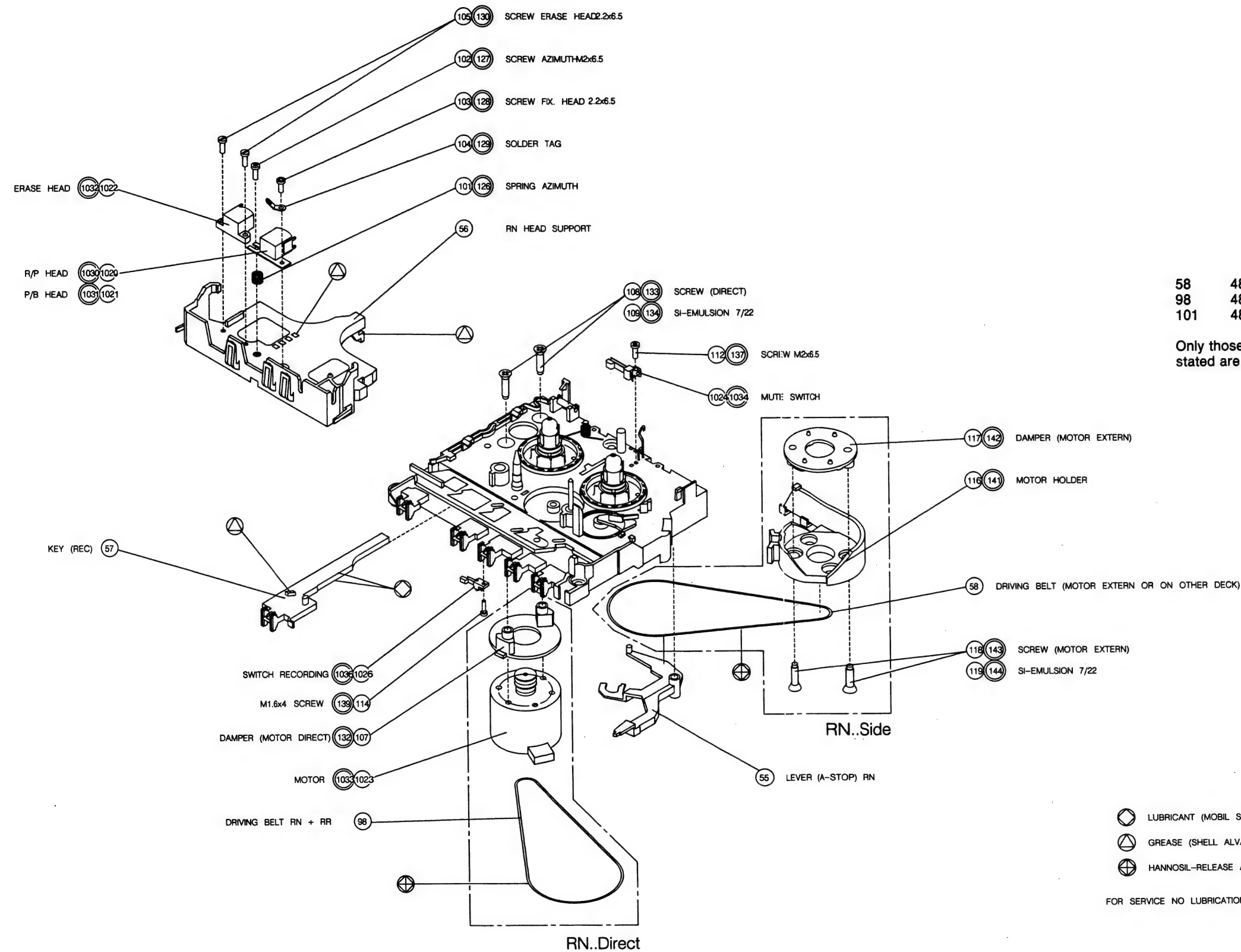
Begin rearwards as indicated





RN-PARTS  
(additional to basic parts)

ITEM 100 TO 124 ON "DECK A"  
ITEM 125 TO 149 ON "DECK B"



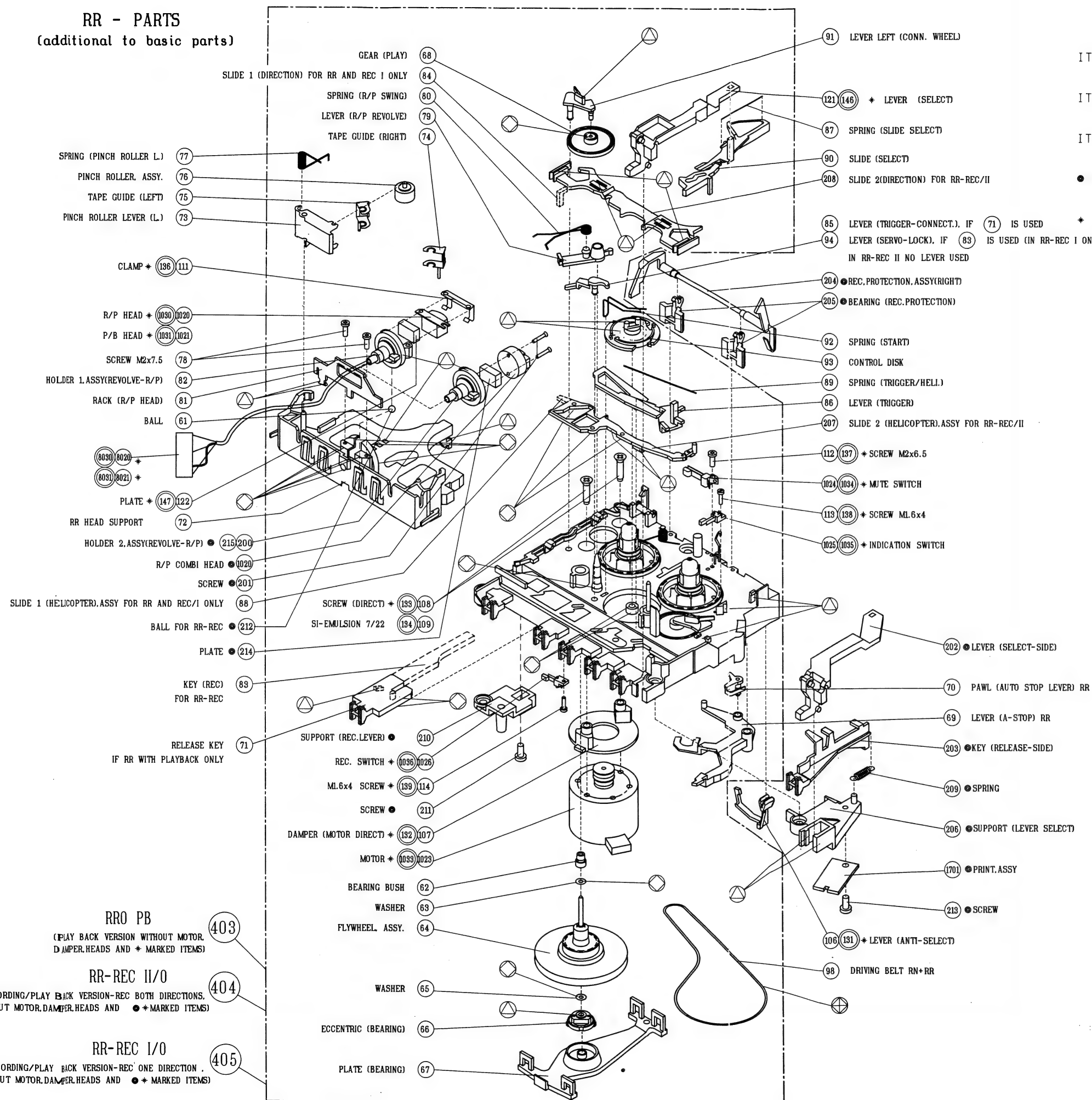
58 4822 358 30929 driving belt RN OS  
98 4822 358 30928 driving belt RN OD  
101 4822 492 51473 spring azimuth

Only those parts of which a service code number is stated are service parts.

- LUBRICANT (MOBIL SHC 634) term No. 48
- GREASE (SHELL ALVANIA RS) term No. 49
- HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

# RR - PARTS (additional to basic parts)



## EXPLANATIONS FOR VERSIONS:

ITEM 100 TO 124 ON "DECK A"

ITEM 125 TO 149 ON "DECK B"

ITEM 200 TO 215 ONLY USED IN REC. VERSION

• NOT IN RR-REC I/O AND RR-REC II/O

\* DEPENDENT ON VERSION, THEREFORE NOT IN RR 0 PB AND RR-REC I/O AND RR-REC II/O

67	4822 520 10718	plate bearing
73	4822 402 10038	lever pinch roller left
74	4822 535 92992	tape guide right
75	4822 535 92993	tape guide left
76	4822 528 70646	pinch roller

106	4822 403 70385	lever
111	4822 492 70393	spring head clamping
403	4822 691 10294	RR0 PB assy
404	4822 691 20665	RR REC II/O assy
405	4822 691 10295	RR REC I/O assy

Only those parts of which a service code number is stated are service parts.

⊗	LUBRICANT (MOBIL SHC 634)	Item No. 48
△	GREASE (SHELL ALVANIA RS)	Item No. 49
⊕	HANNOSIL-RELEASE AGENT M	Item No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

### RR0 PB

(PLAY BACK VERSION WITHOUT MOTOR, DAMPER HEADS AND \* MARKED ITEMS)

### RR-REC II/O

(RECORDING/PLAY BACK VERSION-REC BOTH DIRECTIONS, WITHOUT MOTOR, DAMPER HEADS AND \* MARKED ITEMS)

### RR-REC I/O

(RECORDING/PLAY BACK VERSION-REC ONE DIRECTION, WITHOUT MOTOR, DAMPER HEADS AND \* MARKED ITEMS)

# Service Information

## CORRECTIONS TO THE SERVICE MANUAL

### \* Front-page

Maintenance: Statement, that BELTS should be cleaned with alcohol or spirit, is wrong.

Correct: Belts must **n o t** be cleaned with alcohol or spirit !

Reason : Belts are treated with silicone milk to avoid mechanical oscillation.

- \* **Block diagram** which describes the modular structure of the RN/RR, RDN/RDR system has to be updated.  
For new updated block diagram see annex.

### \* Service hints

In the service manual there is stated: The head support (pos.56/72) cannot be removed because a special tool is necessary to assemble spring pos.39.

Now an easy method has been found to assemble spring pos.39 without a special tool —> see annex "Service Hints"

### \* Exploded View RR-parts

Because of the new RR-Recording-types the exploded view for RR parts has been revised. —>  
For the new, updated, exploded view see annex.

## COMPONENTS ADDED TO THE SERVICE PARTSLIST

pos.	7/67	4822 520 10718	bearing plate
pos.	43	4822 404 10853	slide, key locking
pos.	106	4822 403 70385	lever, antiselect
pos.	404	4822 691 20665	RR RECII/0 assy
pos.	405	4822 691 10295	RR RECI/0 assy

## CHANGES IN COARSE OF PRODUCTION

( Only reverse decks RR )

- \* To avoid "tape salad" after pressing the PLAY button, lever pos.91 was adapted.  
The adapted lever has been used from production week 9004 onwards – hot stamped in chassis **004xA** ( x stands for production day 1–5, A or B stands for the shift which the part was produced in ).



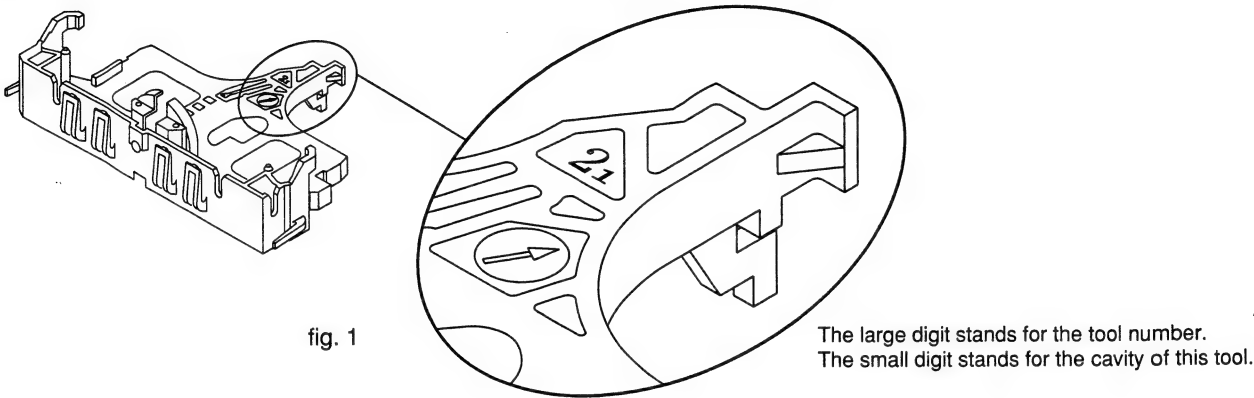
\* **Bearing of rotary head:** tolerance in multi-cavity tools adapted.

Fault: Head jams when turned.  
This effect occurs only in tape transports assembled with head supports pos.72 just after production start with multi-cavity tools and appears when the drive is used (or was stored) in a climate of more than 80% relative humidity.

Head supports produced with multi-cavity tools can be identified by a 2 digit marking – see fig.1

Bad head supports, where the failure can occur, have only been used in tape transports produced from production week 9024 up to 9031 – hot stamped in the chassis **024xA up to 031xA** ( x stands for the production day 1–5, A or B stands for the shift which the part was produced in ).

For service purposes the complete transport mechanism RR0 assy 4822 691 10294 is available.



\* **Delay board**

To ensure a reliable switch over of the MODE SELECTOR to “normal mode” after full auto shutoff, an electronic delay-circuit was added to all auto reverse tape transports with production change code **WT01**.

For this electronic delay circuit there were 2 different versions available —> for schematic diagrams and assembly drawings see next two pages.

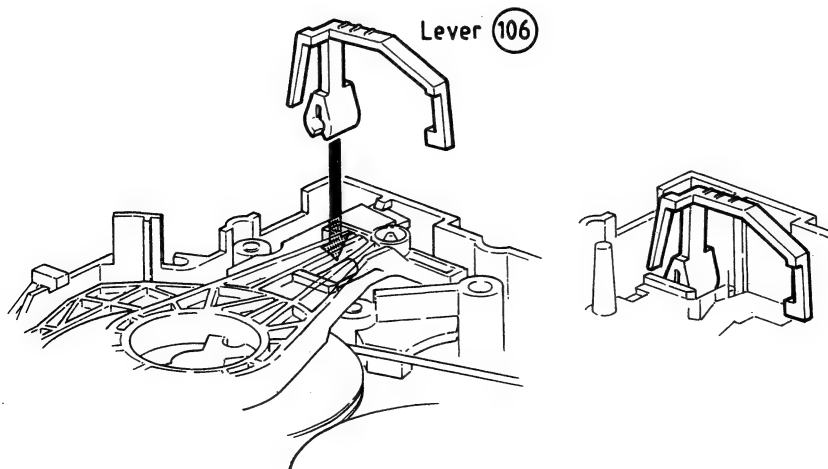
From production week 9042 with change code **WT02** onwards this electronic delay-circuit has been replaced by a mechanical solution:

lever pos. 70 changed  
lever pos.106 added 4822 403 70385

**Attention:** Lever pos.106 is not mounted on all RR0Pb (4822 691 10294), RR-REC I/0 (4822 691 10295) and RR-REC II/0 (4822 691 20665) tape transports, available for service purposes —> because of the changed lever pos.70 the auto-shutoff function does not work without lever pos.106!

If a tape transport with change code **WT01** will be exchanged by a tape transport with change code **WT02** lever pos.106 has to be ordered extra and mounted on the new tape transport. —> see fig.2

From June 92 onwards it is organized that the tape transports will be delivered with lever pos.106 mounted.



(GB)

### REVERSE MODE -position 2 of mode selector 121

"FF" or "REW": On tape end full "auto shut off" will be activated and "mode selector" will be switched over to "normal mode".

To ensure a reliable switching over of the "mode selector" in case of "full auto shut off" it is necessary that flywheel makes at least 3 turns after switching off the supply. Therefore a **motor shut off-delay** has been added.

(F)

### MODE REVERSE (retour en arrière)- position 2 ou sélecteur de mode 121

"FF" ou "REW" : En fin de bande, l'arrêt total automatique sera activé et le "sélecteur de mode" commutera sur "mode

normal".

Pour garantir une commutation fiable du "sélecteur de mode" en cas d'arrêt total automatique, il faut que le volant effectue au moins 3 tours après la mise hors circuit. C'est la raison pour laquelle un **retard d'arrêt du moteur** a été intégré.

(NL)

### REVERSE MODE - positie 2 van keuzeschakelaar 121

"FF" of "REW" : Aan het einde van de band wordt de automatische uitschakeling geactiveerd en wordt keuzeschakelaar 121 naar "normal mode" geschakeld.

Om bij automatische uitschakeling een betrouwbare omschakeling van de keuzeschakelaar te waarborgen, is het noodzakelijk dat het vliegwiel na de uitschakeling nog minstens 3 omwentelingen maakt.

Om dit te bereiken is een **uitschakelingsvertraging** voor de motor ingebouwd.

(D)

### REVERSE MODE -Position 2 des Mode-Selektors 121

"FF" oder "REW": Am Bandende schaltet die automatische Endabschaltung ab und der "Mode Selektor" wird auf "normal mode" umgeschaltet.

Um ein zuverlässiges Umschalten des "Mode Selektors" nach der automatischen Endabschaltung zu gewährleisten, ist es notwendig, dass die Schwungmasse nach dem Abschalten noch mindestens 3 Umdrehungen macht.

Deshalb wurde eine **Motor-Abschaltverzögerung** eingebaut.

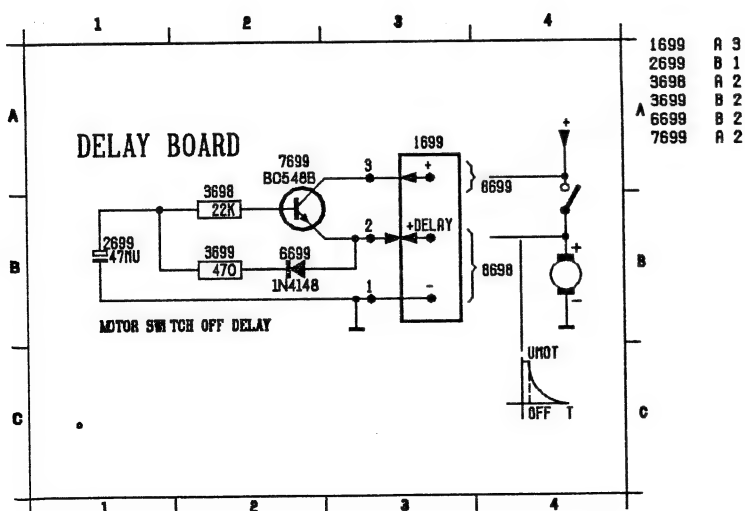
(I)

### MODO REVERSE - posizione 2 del selettore 121

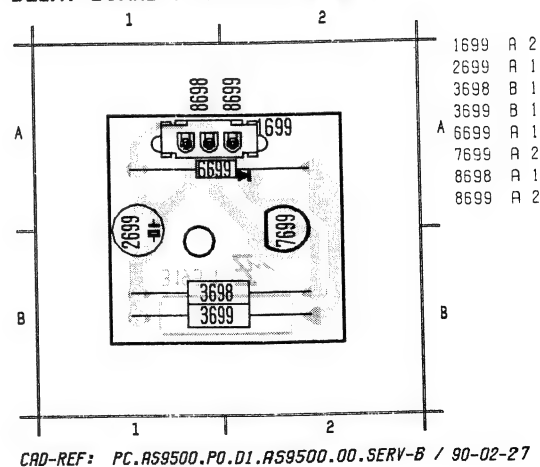
"FF" o "REW": alla fine del nastro nella cassetta, l'apparecchio viene spento automaticamente ed il selettore 121 commutato nel "modo normale".

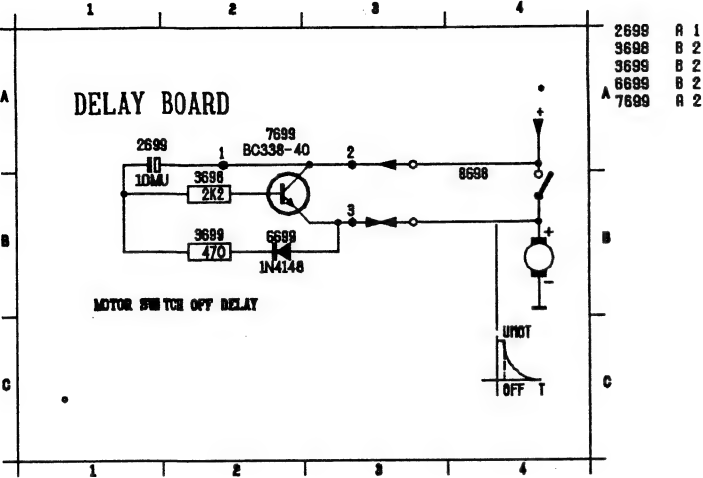
Onde assicurare allo spegnimento automatico una commutazione affidabile del selettore è necessario che il volano dopo lo spegnimento faccia ancora almeno 3 giri. Per tale ragione è incorporato un ritardo di arresto per il motorino.

## VERSION 1

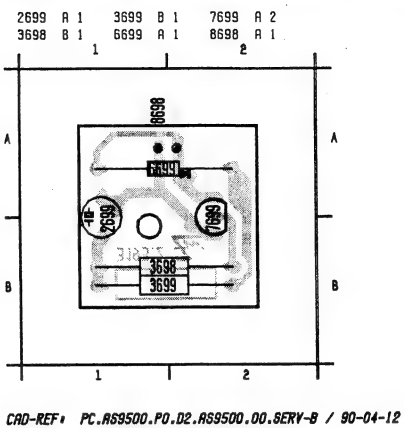


## DELAY BOARD / SIDE-B VIEW /





DELAY BOARD / COMPONENTSIDE VIEW / AS9500





## SUMMARY OF SERVICE CODE NUMBERS

## RN - TAPE TRANSPORTS

	RN 1	RN 2	RN 3	RN 4	RN 5	RN 6	RN 7			
<b>Motor</b> MMI-6H2LWKR 4822 361 21323	x	x		x		x	x			
<b>Motor</b> MMI-6H2LWDR 4822 361 21298										
<b>Motor</b> MMI-6H9LWDR 4822 361 21285										
<b>Motor</b> MMI-6S9LR 4822 361 21425			x							
<b>Motor</b> MMI-6S9LRK 4822 361 21446					x					
<b>Head</b> erase 4822 249 20072	x	x	x	x	x					
<b>Head</b> dummy 4822 443 61616 4822 404 10685						x	x			
<b>Head</b> Rec/Pb 4822 249 10334	x		x		x					
<b>Head</b> Rec/Pb 4822 249 10397		x		x		x	x			
<b>Damper, Motor (S)</b> 4822 529 10193	x									
<b>Damper, Motor (D)</b> 4822 529 10254		x	x	x	x	x	x			
<b>Screw, Motor (S)</b> 4822 502 30441	x									
<b>Screw, Motor (D)</b> 4822 502 11866		x	x	x	x	x	x			
<b>Support, Motor (S)</b> 4822 403 53996	x									
<b>Switch, Indicat."PLAY"</b> 4822 271 30598	x	x		x		x	x			
<b>Switch, "RECORD"</b> 4822 278 90624		x		x						

## GENERAL PARTS RN - TAPE TRANSPORTS

7/67 4822 520 10718 bearing plate  
 38 4822 520 40134 ball, bearing  
 40 4822 402 10037 lever, pinch roller right  
 41/76 4822 528 70646 pinch roller  
 43 4822 404 10853 slide, key lock

58 4822 358 30929 drive belt RN0 S (long)  
 98 4822 358 30928 drive belt RN0 D (short)  
 101/126 4822 492 51473 spring azimuth  
 401 4822 691 10296 RN0 assy  
 402 4822 528 20676 take-up clutch assy

## SUMMARY OF SERVICE CODE NUMBERS

## RDN - TAPE TRANSPORTS

	RDN 1	RDN 2	RDN 3	RDN 4	RDN 5	RDN 6	RDN 7	RDN 8	RDN 9	RDN 10
<b>Motor</b> MMI-6H2LWKR 4822 361 21323										
<b>Motor</b> MMI-6H2LWDR 4822 361 21298		x		x				x		x
<b>Motor</b> MMI-6H9LWDR 4822 361 21285	x		x		x	x	x		x	
<b>Motor</b> MMI-6S9LR 4822 361 21425										
<b>Motor</b> MMI-6S9LRK 4822 361 21446										
<b>Head erase</b> 4822 249 20072	x	x	x	x	x	x	x	x	x	x
<b>Head dummy</b> 4822 443 61616 4822 404 10685	x	x	x	x	x	x	x	x	x	x
<b>Head Rec/Pb</b> 4822 249 10334	x	x	x	x	x	x				
<b>Head Rec/Pb</b> 4822 249 10397							x	x	x	x
<b>Damper, Motor (S)</b> 4822 529 10193										
<b>Damper, Motor (D)</b> 4822 529 10254	x	x	x	x	x	x	x	x	x	x
<b>Screw, Motor (S)</b> 4822 502 30441										
<b>Screw, Motor (D)</b> 4822 502 11866	x	x	x	x	x	x	x	x	x	x
<b>Support, Motor (S)</b> 4822 403 53996										
<b>Switch, Indic. "PLAY"</b> 4822 271 30598	x			x	x		xx	xx		x
<b>Switch, "RECORD"</b> 4822 278 90624							x	x		x

## GENERAL PARTS RDN - TAPE TRANSPORTS

7/67 4822 520 10718 bearing plate  
 38 4822 520 40134 ball, bearing  
 40 4822 402 10037 lever, pinch roller right  
 41/76 4822 528 70646 pinch roller  
 43 4822 404 10853 slide, key lock

58 4822 358 30929 drive belt RN0 S (long)  
 98 4822 358 30928 drive belt RN0 D (short)  
 101/126 4822 492 51473 spring azimuth  
 401 4822 691 10296 RN0 assy  
 402 4822 528 20676 take-up clutch assy

## SUMMARY OF SERVICE CODE NUMBERS

## RR / RDR - REVERSE TAPE TRANSPORTS

	RR 1	RR 2	RR 3	RDR 1	RDR 2	RDR 3	RDR 4	RDR 5	RDR 6	RDR 7	RDR 9
<b>Motor</b> MMI-6H2LWKR 4822 361 21323	x	x	x								
<b>Motor</b> MMI-6H2LWDR 4822 361 21298						x	x				
<b>Motor</b> MMI-6H9LWDR 4822 361 21285				x	x			x	x	x	x
<b>Motor</b> MMI-6S9LR 4822 361 21425											
<b>Motor</b> MMI-6S9LRK 4822 361 21446											
<b>Head</b> erase 4822 249 20072				x	x	x	x	x	x	x	x
<b>Head</b> Rec/Pb 4822 249 10334				x	x	x		x	x	x	
<b>Head</b> Rec/Pb 4822 249 10397							x				x
<b>Head</b> (reverse deck) 4822 249 30153	x			x	x	x		x	x	x	
<b>Head</b> (reverse deck) 4822 249 30156		x	x				x				x
<b>Damper, Motor</b> (D) 4822 529 10254	x	x	x	x	x	x	x	x	x	x	x
<b>Screw, Motor</b> (D) 4822 502 11866	x	x	x	x	x	x	x	x	x	x	x
<b>Switch, Indicat.</b> "PLAY" 4822 271 30598	x	x	x	x	x	x	xx	x	x	x	x
<b>Switch, "RECORD"</b> 4822 278 90624							x				

## GENERAL PARTS RR / RDR - REVERSE TAPE TRANSPORTS

7/67 4822 520 10718 bearing plate  
 38/61 4822 520 10134 ball, bearing  
 40 4822 402 10037 lever, pinch roller right  
 41/76 4822 528 70646 pinch roller  
 43 4822 404 10853 slide, key lock  
  
 58 4822 358 30929 drive belt RN0 S (long)  
 73 4822 402 10038 lever, pinch roller left  
 74 4822 535 92992 tape guide right  
 75 4822 535 92993 tape guide left  
 98 4822 358 30928 drive belt RN0 D (short)

101/126 4822 492 51473 spring azimuth  
 106 4822 403 70385 lever, antiselect (WTQ2 onwards)  
 111 4822 492 70393 head clip  
 121 4822 403 53876 lever, mode select  
 401 4822 691 10296 RN0 assy  
  
 402 4822 528 20676 take-up clutch assy  
 403 4822 691 10294 RR0 Pb assy  
 1025 4822 278 90624 switch, direction indication



## SUMMARY OF SERVICE CODE NUMBERS

**RR RECording - REVERSE TAPE TRANSPORTS**

	RR-REC I/ 1		RR-REC II/1	RR-REC II/2	RR-REC II/3			
<b>Motor</b> MMI-6H2LWKR 4822 361 21323								
<b>Motor</b> MMI-6H2LWDR 4822 361 21298								
<b>Motor</b> MMI-6H9LWDR 4822 361 21285								
<b>Motor</b> MMI-6S9LR 4822 361 21425	x		x					
<b>Motor</b> MMI-6S9LRK 4822 361 21446				x	x			
<b>Combi Head</b> rotation 4822 249 10434	x		x	x	x			
<b>Damper, Motor (D)</b> 4822 529 10254	x		x	x	x			
<b>Screw, Motor (D)</b> 4822 502 11866	x		x	x	x			
<b>Switch, Indicat."PLAY"</b> 4822 271 30598								
<b>Switch, "RECORD"</b> 4822 278 90624								
<b>Lever, mode select</b> 4822 403 70386			x	x	x			

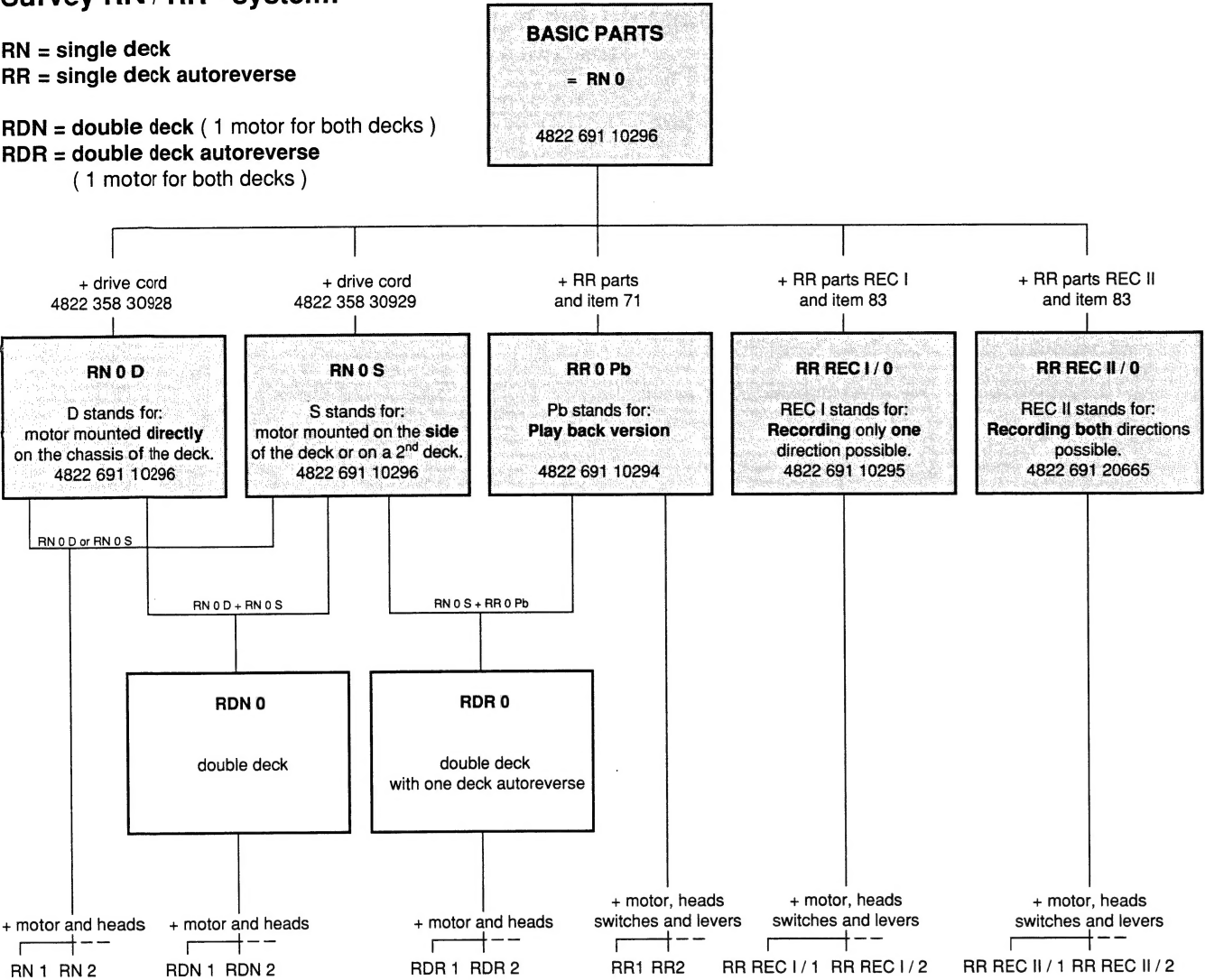
**GENERAL PARTS RR REC - REVERSE TAPE TRANSPORTS**

7/67	4822 520 10718	bearing plate	204	4822 403 70387	lever, recording protection
38/61/212	4822 520 40134	ball, bearing	205	4822 520 20725	bearing, recording protection
40	4822 402 10037	lever, pinch roller right	209	4822 492 33272	spring, tension
41/76	4822 528 70646	pinch roller	402	4822 528 20676	take-up clutch assy
43	4822 404 10853	slide, key lock	404	4822 691 10295	RR-REC I/0 assy
73	4822 402 10038	lever, pinch roller left	405	4822 691 20665	RR-REC II/0 assy
74	4822 535 92992	tape guide right	1025	4822 278 90624	switch, direction indication
75	4822 535 92993	tape guide left			
98	4822 358 30928	drive belt RNO D (short)			
106	4822 403 70385	lever, antiselect (WT02 onwards)			

Survey RN / RR - system:

RN = single deck  
RR = single deck autoreverse

RDN = double deck ( 1 motor for both decks )  
RDR = double deck autoreverse  
( 1 motor for both decks )



described in this general manual  
for the various types of tape transports see separate manuals

GB

Version 0 stands for deck without motor and heads. The various motors and heads give the various versions of tapetransports.  
For codenumbers of motors and heads see separate manual of the corresponding tapetransport – version.

F

.La version 0 correspond á une mécanique sans moteur ni têtes. Ce sont eu fait les differents moteurs et têtes qui sont de terminauts pour le n° que porte une ceztaine version d'une mécanique.  
Veuillez vous reporter á la Documentation traitant d'un version précise en matière de codes des mouteurs et des têtes.

I

La versione 0 corrisponde ad un meccanismo privo di motore e testine. Infatti sono i motori e le testine che determinano il número di codice di una certa versione di un meccanismo.  
Per quanto concerne i codici per motori e testine, riferirsi alla Documentazione de Servizio della versione precisa di cui si tratta.

NL

Versie 0 staat voor een loopwerk zonder motor en magneetkoppen. Der vershillende motors en koppen bepalen der verschillende loopwerkversies.  
De codenummers van de motors en koppen zijn vermeld in de documentatie van de betreffende loopwerkversie.

D

Version 0 steht für : Laufwerk ohne Motor und Köpfe. Die verschiedenen Motoren und Köpfe bestimmen die verschiedenen Versionen der Laufwerke.  
Die Codenummern der Motoren und Köpfe entnehmen Sie bitte der Dokumentation der betreffenden Version.

SERVICE HINTS

GB DISMANTLING

- Removal of the pressure roller 40+41 (76+73)  
Press locklug of headsupport aside and pull up lever 40 (73).
- Removal of take up clutch 402  
Press locklugs apart (e.g.with a small pair of tweezers) and pull up 402.

ADJUSTMENTS and CHECKS

- Check of pressure roller force against capstan:  
The force of the pressure roller against the capstan should be 240 ± 30 p.  
Measuring method:  
Pb mode with arbitrary cassette. Push the pressure roller with a spring pressure gauge (4822 395 80028) away from the capstan – see fig.2  
Read force just in that moment when tape travel stops. This pressure cannot be adjusted!
- Take up clutch 402  
The torque can be measured with friction test cassette 4822 395 30054 in play mode.  
Requirement:  
take up torque: 40 – 65 pcm  
( permissible variation 5 pcm )  
supplying reel: 2 – 4 pcm
- FF/REW torque  
Use friction testcassette 4822 395 30054  
FF– or Rew – mode  
Stop supplying reel by hand and read friction force – requirement: 55 – 90 pcm
- Check of tape travel and capstan adjustment:  
Use mirror cassette 4822 395 30058 in play mode. If the tape moves up or down at the capstan the capstan has to be adjusted perpendicularly with the flywheel bearing 5.  
The tape should travel straight and smoothly between the tapeguides and along the capstan.Small deviations in this pattern are permissible since their effect is negligible with a normal cassette.

Attention: In case of a reverse deck it is important to check tape travel in both directions after adjustment of the azimuth of the Rec./Pb – head ----- repeat if necessary.

For adjustment of the azimuth of the Rec./Pb – head and the tape speed refer to the concerning service manual of the set.

NL SERVICE-HINTS

DEMONTAGE

- Verwijderen van aandrukrol 40+41 (76+73)  
Duw de vergrendellip van de kopsteun opzij en trek hefboom 40 (73) omhoog.
- Verwijderen van opwikkelkoppeling 402  
Duw de vergrendellippen opzij (bijvoorbeeld met een klein pincet) en trek de koppeling 402 omhoog.

AFSTELLINGEN en CONTROLES

- Controleren van de kracht van de aandrukrol tegen de kaapstander:  
De druk van de aandrukrol tegen de kaapstander moet zijn 240 ± 30p.  
Meetmethode:  
Plaats een willekeurige cassette en druk de weergavetoets in. Trek de aandrukrol met een veerdrukmeter (4822 395 80028) weg van de kaapstander – zie afbeelding 2.  
Lees de waarde af precies op het moment dat de band stopt.  
Deze druk kan niet worden bijgesteld.
- Opwikkelkoppeling 402  
Het koppel kan worden gemeten met behulp van de frictietestcassette 4822 395 30054 in de weergavestand.  
Eis:  
opwikkelkoppel: 40 – 65 pcm  
( toegestane afwijking 5 pcm )  
afwikkelspoel: 2 – 4 pcm
- koppel bij vooruit-/terugspoelen  
Gebruik frictietestcassette 4822 395 30054 in de stand vooruitspoelen of terugspoelen.  
Houd de afwikkelspoel met de hand stil en lees de wrijvingskracht af – eis: 55 – 90 pcm.
- Controleren van bandtransport en kaapstander-instelling:  
Gebruik spiegelcassette 4822 395 30058 in de stand weergeven.  
Als de band bij de kaapstander op en neer gaat, moet de kaapstander verticaal worden bijgesteld met behulp van vliegwiellager 5.  
De band moet recht en soepel tussen de bandgeleiders langs de kaapstander lopen. Kleine afwijkingen in dit patroon zijn toelaatbaar omdat het effect ervan bij een normale cassette te verwaarlozen is.  
Aandacht: In geval van een deck dat zowel kan opnemen als weergeven, is het belangrijk om na de azimuthinstelling van de opname-/weergavekop het bandtransport in beide richtingen te controleren. Indien nodig de instelling herhalen.  
Voor de azimuthinstelling van de weergave-/opnamekop en de bandsnelheid gelieve u de servicehandleiding van het betreffende apparaat te raadplegen.

F CONSEILS D'ENTRETIEN

DEMONTAGE

Démontage du galet presseur 40+41 (76+73) Poussez sur le côté la patte de serrage du support de la tête de lecture et remontez le levier 40 (73).

Démontage de la griffe enrouleuse 402

Poussez à l'écart les pattes de serrage (par exemple avec des pincettes) et tirez la griffe 402 vers le haut.

dans les ateliers.

REGLAGES ET VERIFICATIONS

- Vérification de la pression des galets presseurs contre le cabestan :  
La pression exercée contre le cabestan doit être de 240 ± 30 p.  
Méthode de mesure :  
En mode lecture avec une cassette arbitraire.

Eloignez du cabestan le galet presseur avec un manomètre à ressorts (4822 395 80028)– Fig.2 Lisez la pression au moment où la bande cesse de défiler. Cette pression ne peut pas être réglée !

- **Griffe enrouleuse 402**  
Le moment de torsion peut être mesuré à l'aide de la cassette de test à friction 4822 395 30054 en mode lecture.  
Condition requise :  
Moment de torsion de l'enrouleuse : 40–65 MIC  
Variation autorisée : 5 MIC  
Bobine débitrice : 2 – 4 MIC
- **Moment de torsion FF/REW (bobinage rapide/rebobinage)**  
Utilisez la cassette de test à friction 4822 395 30054  
Mode bobinage rapide ou rebobinage.  
Arrêtez la bobine débitrice à la main et lisez la force de friction: 55 – 90 MIC exigés

- **Contrôle du défilement de bande et du réglage du cabestan :**  
Utilisez la cassette à miroir 4822 395 30058 en mode lecture Si la bande se déplace vers le haut ou vers le bas du cabestan, vous devez ajuster le cabestan perpendiculairement avec le palier 5 du volant. La bande doit défiler en ligne droite et doucement entre les guides de bande. De faibles déviations de ce modèle sont autorisées car leur effet est négligeable avec une cassette conven- tionnelle.

#### Attention :

Dans le cas d'une platine cassette à inversion de défilement, il est très important de vérifier le défilement de bande dans les deux sens après le réglage de l'azimut de la tête de lecture/enregistrement.  
Répétez cette opération si nécessaire.

Pour le réglage de l'azimut de la tête de lecture/enregistrement et la vitesse de bande, reportez-vous au manuel d'entretien correspondant.

### D AUSBAU

- **Andruckrolle 40+41 (76+73) entfernen:**  
Sperrzunge der Kopfrägerplatte zur Seite drücken und Hebel 40 (73) hochziehen.
- **Aufwickelkupplung 402 entfernen:**  
Rasthaken auseinanderdrücken (z.B. mit spitzer Pinzette) und gleichzeitig 402 hochziehen.

### EINSTELLUNGEN und KONTROLLEN

- **Kontrolle des Anpreßrollendruckes**  
Der Druck der Anpreßrolle 41 (76) an die Tonachse soll  $240 \pm 30$  p betragen.  
Meßmethode: Stellung "play" mit beliebiger Kassette. Anpreßrolle mit einer Federwaage (4822 395 80028) – Ansetzpunkt siehe Fig. 2 – von der Tonachse wegdrücken. Lesen Sie die Kraft in dem Moment ab, wenn der Bandtransport stoppt. Dieser Druck kann nicht eingestellt werden!
- **Aufwickelrutschkupplung 402**  
Das Aufwickelmoment wird mit der Meßkassette 4822 395 30054 in Stellung "play" gemessen.  
Anforderung:  
Aufwickelmoment: 40 – 65 pcm  
(zulässige Schwankung 5 pcm)  
Gegenzug: 2 – 4 pcm
- **FF / REW - Moment**  
Stellung "FF" bzw. "REW"  
Meßkassette 4822 395 30054 verwenden.

Jeweiligen Abwickelteller mit der Hand blockieren und Moment ablesen.

Anforderung: 50 – 90 pcm

- **Kontrolle des Bandlaufs und der Tonwelleneinstellung:**  
Verwenden Sie Spiegelkassette 4822 395 30058 in Stellung "play".  
Wenn sich das Band an der Tonwelle nach oben oder unten bewegt, muß die Tonwelle mit dem Exzenterlager 5 senkrecht gestellt werden. Das Band soll gerade und genau fluchtend zwischen den Bandführungen der Köpfe und an der Tonwelle entlang laufen. Geringe Abweichungen in diesem Bild sind zulässig, da sie bei einer normalen Kassette nicht beeinträchtigend wirken.

**Achtung:** Bei Reverse – Laufwerken ist es wichtig, nach Einstellung des Azimuths den Bandlauf in beiden Richtungen zu kontrollieren ----- falls notwendig, wiederholen.  
Für Einstellung des Azimuths des REC/Pb –Kopfes und der Bandgeschwindigkeit siehe Servicedokumentation des betreffenden Gerätes.

### I CONSIGLI DI SERVIZIO ASSISTENZA

#### SMONTAGGIO

- **Smontaggio del rullino pressanastro 50+41 (76+73)**  
Spingere la linguetta di bloccaggio del supporto delle testine lateralmente e tirare in alto la leva 40 (73).
- **Smontaggio dell'accoppiamento di avvolgimento 402**  
Spingere le linguette di bloccaggio lateralmente (p.e. con una piccola pinza) e tirare in alto l'accoppiamento 402.

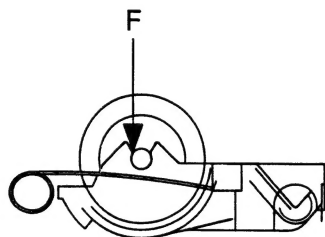


FIG 2

MDA.00429  
T07/646

#### REGISTRAZIONI e CONTROLLI

- **Controllo della forza del rullino pressanastro contro il rullino trainonastro:**  
La forza del rullino pressanastro contro il rullino trainonastro deve essere di  $240 \pm 30$  p.  
Metodo di misurazione:  
Inserire una qualsiasi cassetta e premere il tasto di riproduzione. Allontanare il rullino pressanastro con un misuratore della pressione elicoidale (4822 395 80028) dal rullino trainonastro (fig. 2).  
Leggere il valore proprio al momento che il nastro si arresta.  
Non è possibile correggere questa pressione!
- **Accoppiamento di avvolgimento 402**  
La coppia può essere misurata con l'aiuto della cassetta di controllo della frizione 4822 395 30054 nel modo di riproduzione.  
Valori prescritti:  
Coppia di avvolgimento: 40–65 pcm.  
(tolleranza: 5 pcm)  
Bobina di svolgimento : 2–4 pcm.
- **Coppia di avvolgimento/riavvolgimento**  
Servirsi della cassetta di controllo della frizione 4822 395 30054 nel modo di avvolgimento o riavvolgimento.  
Bloccare con la mano la rotazione della bobina di svolgimento e leggere la forza di frizione.  
Valore prescritto: 55–90 pcm.

### REMOVAL OF PINCH ROLLER

- **Controllo della regolazione del trasporto del nastro e del rullino trainonastro**

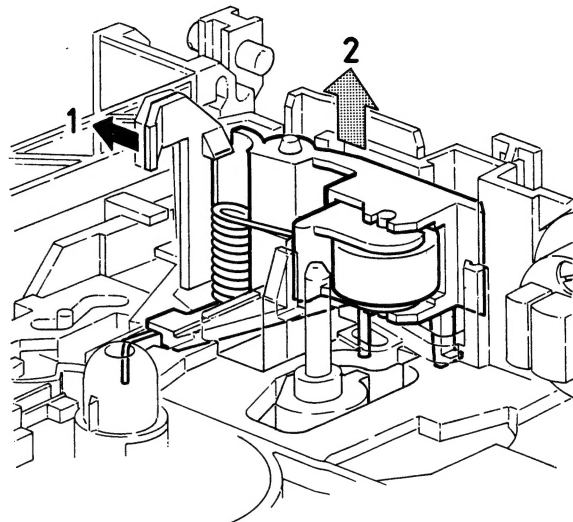
Servirsi della cassetta a specchio 4822 395 30058 nel modo di riproduzione.

Se il nastro si sposta in alto ed in basso dalla parte del rullino trainonastro, registrare il rullino trainonastro in senso verticale con l'aiuto del cuscinetto del volano 5.

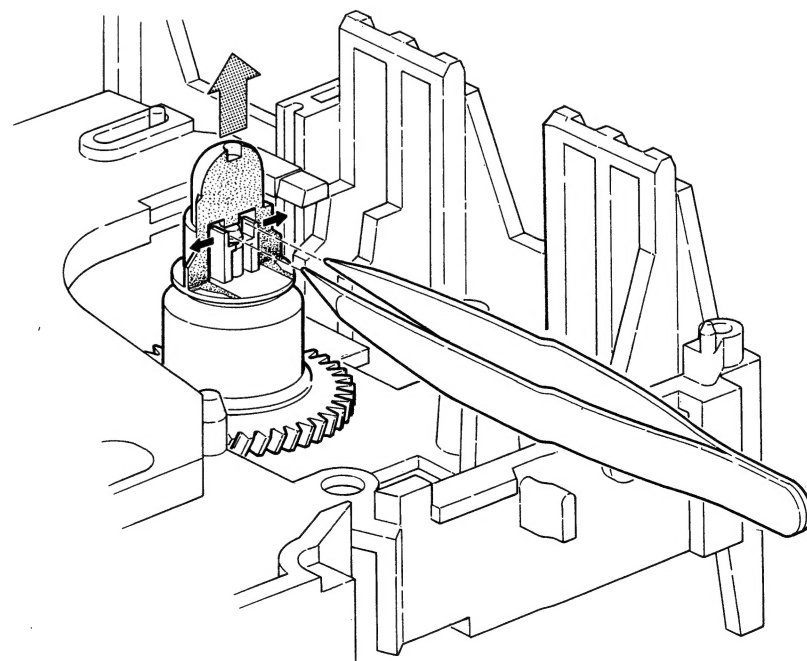
Il nastro deve passare ben diritto ed agevolmente tra le guide del nastro lungo il rullino trainonastro. Sono consentite piccole deviazioni dato che il loro effetto è trascurabile con l'uso di una cassetta normale.

**Attenzione:** in caso l'apparecchio permetta sia la registrazione che la riproduzione, a registrazione avvenuta dell'azimut della testina di registrazione/riproduzione è importante controllare il trasporto del nastro nei due sensi. Se necessario, ripetere la registrazione.

Per la **registrazione dell'azimut** della testina di registrazione/riproduzione e la **velocità di trasporto del nastro**, consultare il manuale di servizio assistenza dell'apparecchio in questione.



### REMOVAL OF CARRIER ⑨, ⑳

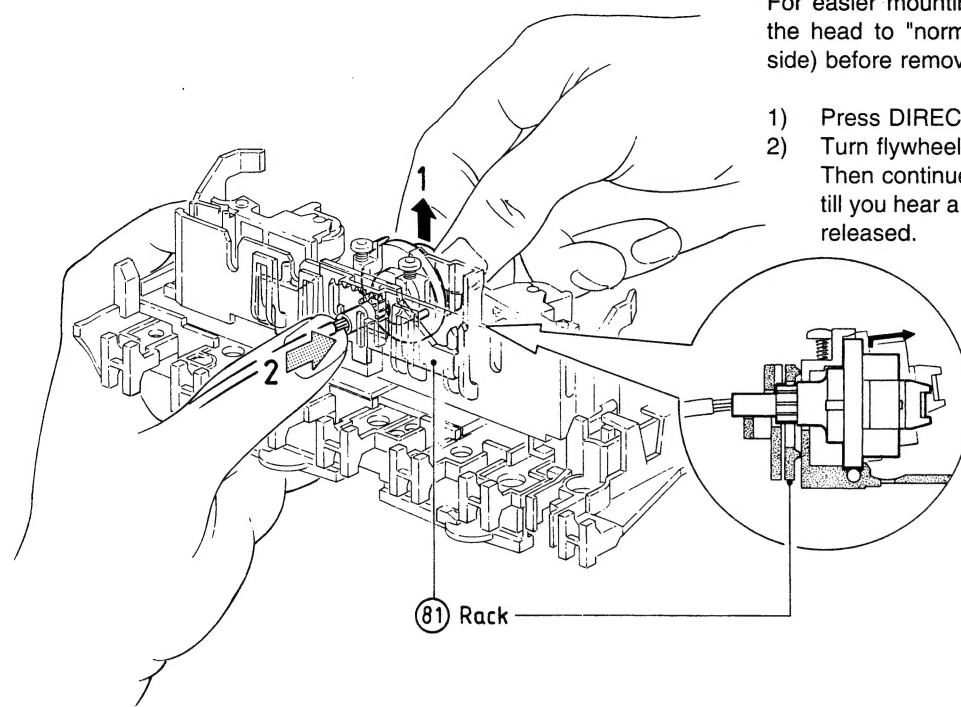




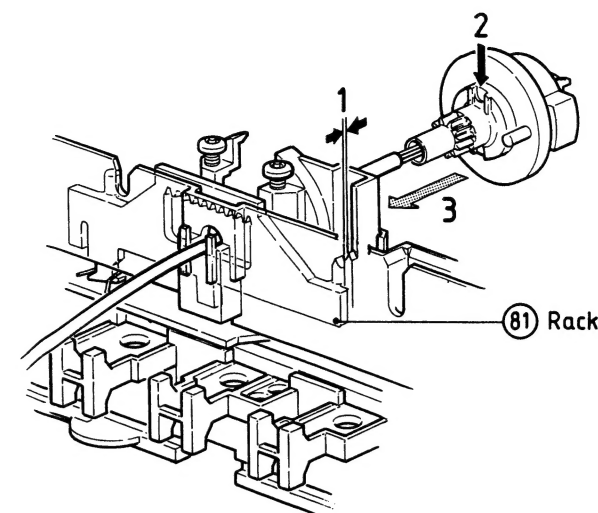
## REMOVAL OF ROTATION HEAD

For easier mounting of the rotation head afterwards, turn the head to "normal direction" (tape guiding on the right side) before removing:

- 1) Press DIRECTION - key once.
- 2) Turn flywheel by hand as long as head turns around. Then continue for about half a rotation of the flywheel till you hear a mechanical click. Now the mechanism is released.



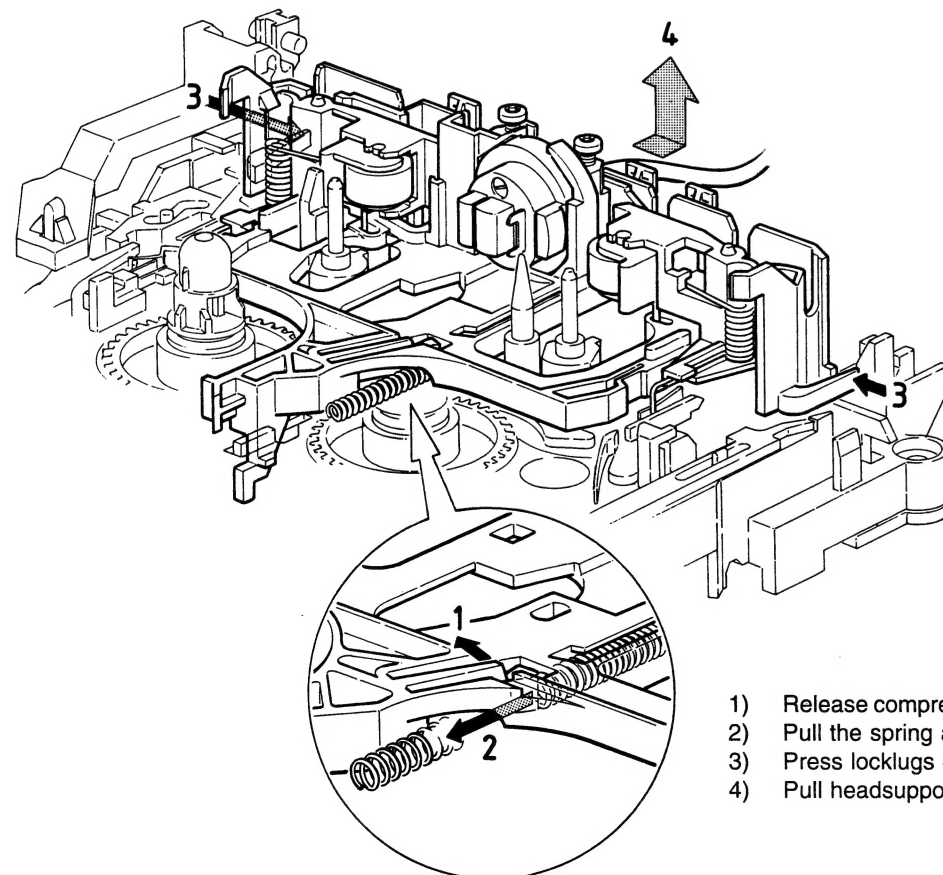
## MOUNTING OF ROTATION HEAD



Rack pos.81 has to be aligned before mounting the rotation head:

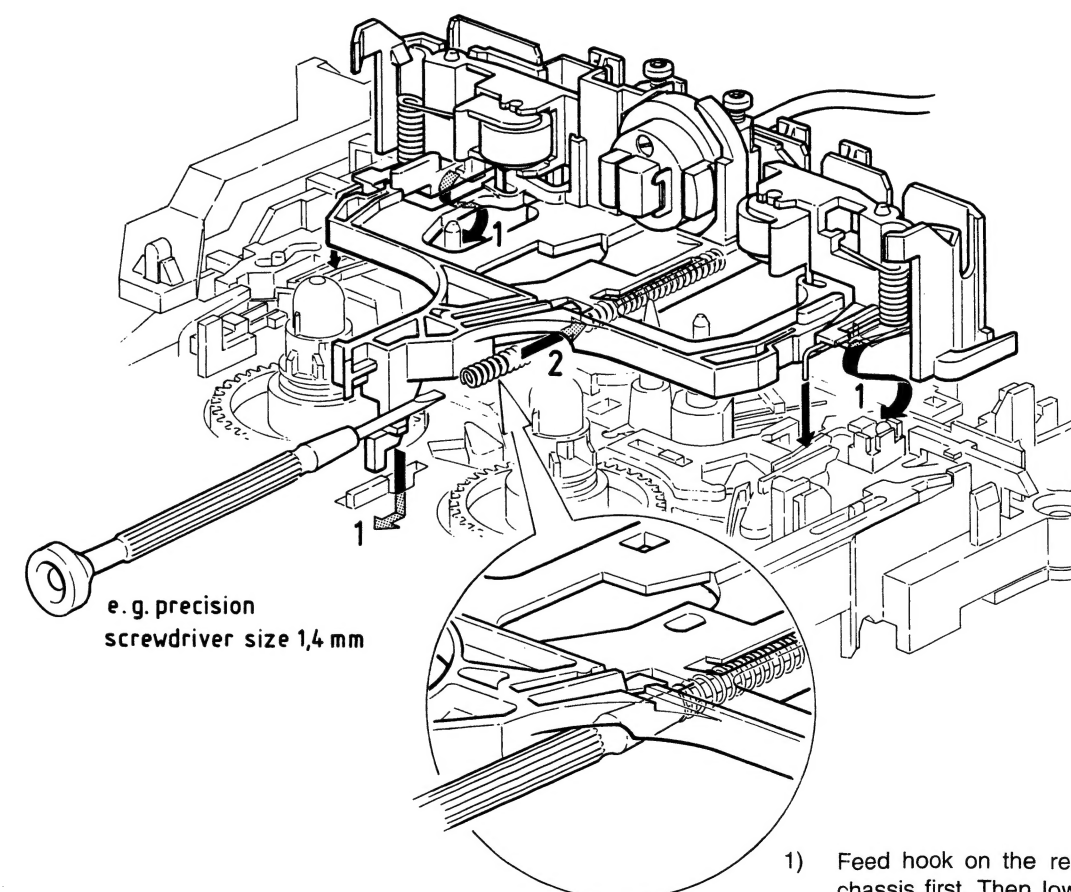
- 1) Press DIRECTION - key once. Turn flywheel by hand as long as the alignment pin of rack pos.81 is in line with the alignment marking on the headsupport --> see sketch.
- 2) Hold the head in normal (horizontal) position - marking on the head is on top.
- 3) Snap head into headsupport. remark: If you follow the above instruction the teeth of the gear will fit together.
- 4) Change the direction as described under "removal of rotation head" and check if the rotation head turns to the correct position. If the head is not in horizontal position repeat and take care of exact alignment of rack pos.81 and horizontal position of the head while mounting.

## REMOVAL OF HEADSUPPORT



- 1) Release compression spring by pressing locklug aside.
- 2) Pull the spring about half of the spring length out.
- 3) Press locklugs of the headsupport aside.
- 4) Pull headsupport in direction to the keys and lift it.

## MOUNTING OF HEADSUPPORT

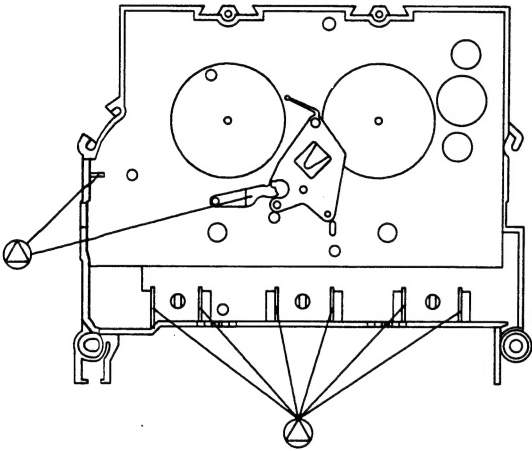


- 1) Feed hook on the rear of the headsupport into the chassis first. Then lower the front part to the chassis and press headsupport towards back until locklugs snap in. Attention: In case of a reverse deck take care of fitting the pinch roller pressing springs correctly into the guiding slots of the chassis.
- 2) Use a little screwdriver as a guiding and compress compression spring until locklug arrests.

**BASIC PARTS  
RN/RR-TAPE DECK**

RN0 401

**BOTTOM VIEW OF CHASSIS WINDPLATE**



- LUBRICANT (MOBIL SHC 634) term No. 48
- △ GREASE (SHELL ALVANIA RS) term No. 49
- ⊕ HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

7	4822 520 10718	plate bearing
40	4822 402 10037	lever pinchroller right
41	4822 528 70646	pinch roller
43	4822 404 10853	slide, key locking
401	4822 691 10296	RN 0 assy
402	4822 528 20676	take up clutch assy

Only those parts of which a service code number is stated are service parts.

